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July 2, 1993

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AUDIT REPORT: ENVIRONMENTAL MANAGEMENT AUDIT OF THE DESERT
RESEARCH INSTITUTE AT THE YUCCA MOUNTAIN SITE CHARACTERIZATION
PROJECT, JUNE 1993, CONTRACT #DE-AC08-87NV10576 (SCP: N/A)

The Audit Report for Audit FY93B (Enclosure 1), an environmental management audit
of the Desert Research Institute, is enclosed for your review and approval. The remaining
post-audit activities scheduled to occur subsequent to your approval of the Audit Report are
listed for your information at Enclosure 2. If you have any questions, please contact Ed
McCann at 794-7758 or Sid Dodd at 794-7522.

Michael W. Harris

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MWH:ASD:pjm:20204

Enclosure:

1. Audit Report, *per 7-13-93*
~~June~~ ~~March~~ 1993
2. Schedule of Remaining
Post-Audit Activities

cc w/o encl:

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**SCHEDULE OF ENVIRONMENTAL AUDIT 93B POST-AUDIT ACTIVITIES
REMAINING AFTER POCD APPROVES AUDIT REPORT**

<u>Post-Audit Activity</u>	<u>Action By</u>	<u>Date(s)</u>
Issue Audit Report	POCD	July 13
Develop Corrective Action Plan	DRI	July 14-Aug.13
Approve Corrective Action Plan	POCD	August 16-20
Implement Corrective Action Plan	DRI	Aug. 23-Sept. 3
Verify Corrective Action Plan	T&MSS	September 7-8
Close Audit	POCD	September 10

ENCLOSURE 2

U.S. DEPARTMENT OF ENERGY

DOE
M



YUCCA
MOUNTAIN

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

AUDIT REPORT:

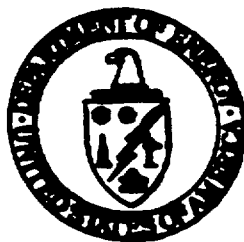
ENVIRONMENTAL MANAGEMENT AUDIT FY93B

OF THE

DESERT RESEARCH INSTITUTE
AT THE

YUCCA MOUNTAIN SITE
CHARACTERIZATION PROJECT

JUNE 1993



UNITED STATES DEPARTMENT OF ENERGY
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE

91190 4511

ENVIRONMENTAL MANAGEMENT AUDIT FY93B REPORT ORGANIZATION

REPORT OVERVIEW

This audit report describes the results of Environmental Management Audit FY93B of the Desert Research Institute Yucca Mountain Site Characterization activities. The audit was conducted June 14-18, 1993 by the Technical and Management Support Services (T&MSS) Environmental Compliance and Permitting Department (ECPD) as directed by the Yucca Mountain Site Characterization Project Office (YMPO) Project and Operations Control Division (POCD) Director.

The EXECUTIVE SUMMARY briefly describes the audit process and summarizes the audit team findings. It includes a summary table of all findings arranged by subject area and distinguished as compliance, best management practice, or noteworthy practice findings.

- Section 1 INTRODUCTION, highlights the U.S. Department of Energy (DOE) and YMPO environmental oversight responsibilities, discusses the purpose and general objectives of this audit, and profiles the audited organization.
- Section 2 SITE LOCATION AND DESCRIPTION, briefly describes the Yucca Mountain Site Characterization Project (YMP) location and its setting.
- Section 3 AUDIT PROCESS, summarizes the areas evaluated during the audit, discusses the audit team composition, and describes audit methods and procedures.
- Section 4 ENVIRONMENTAL MANAGEMENT AUDIT FINDINGS, defines finding categories and discusses each specific audit finding. Each subject area contains an overview followed by presentations that include the following elements: finding number, category, title, statement, and discussion.

Appendices

- Appendix A Environmental Management Audit Plan
- Appendix B Administrative Procedures, Training Plan, Field Operations Instruction
- Appendix C Audit Schedules
- Appendix D Audit Team Biographical Sketches
- Appendix E List of Audit Team Contacts and Interviews
- Appendix F List of Documents Reviewed by the Audit Team
- Appendix G University and Community College System of Nevada Environmental Safety and Health Statement

An Acronym List (fold out) is provided immediately following the appendices.

911904543

ENVIRONMENTAL MANAGEMENT AUDIT FY93B REPORT

**THE DESERT RESEARCH INSTITUTE
AT THE
YUCCA MOUNTAIN SITE
CHARACTERIZATION PROJECT**

Prepared for:

U.S. Department of Energy
Yucca Mountain Site Characterization Project Office
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JUNE 1993

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EXECUTIVE SUMMARY

INTRODUCTION

The U.S. Department of Energy (DOE) and the Yucca Mountain Site Characterization Project Office (YMPO) are committed to environmentally safe and sound performance of Yucca Mountain Site Characterization Project (YMP) activities. The primary YMP environmental program objective is to achieve full compliance and excellence in environmental matters through aggressive oversight of environmental performance.

The YMPO Project and Operations Control Division (POCD) Director is charged to insure that YMP activities employ sound environmental management practices to assure compliance with environmental program requirements. To that end, the POCD Director tasked the Technical and Management Support Services (T&MSS) Environmental Compliance and Permitting Department (ECPD) to develop a program to conduct environmental compliance and environmental management audits of YMP Participants.

This report documents results of Audit FY93B, an environmental management audit of Yucca Mountain Site Characterization Project activities of the Desert Research Institute (DRI). DRI, a part of the University and Community College System of Nevada (UCCSN), has been contracted through the U.S. Department of Energy, Nevada Operations Office (DOE/NV) to conduct archaeological and other scientific studies for the YMPO.

AUDIT SITE

Preaudit, audit, and post-audit technical and administrative activities occurred primarily at two locations: the Yucca Mountain project site and T&MSS offices in the Bank of America Center. DRI management was very cooperative in ensuring that key project personnel/documents not normally on hand in Las Vegas, were available for the duration of the on-site audit phase. Therefore, no audit activities took place at the DRI offices in Reno or Las Vegas, NV.

AUDIT TEAM

The audit team consisted of an Audit Team Leader, a Technical Coordinator, and five technical specialists from the T&MSS ECPD.

AUDIT PURPOSE AND OBJECTIVES

The audit purpose was to assess DRI's environmental management program to determine if program structure and formality are sufficient to assure consistency with environmental procedures, regulations, and standards associated with YMP site characterization activities. The general audit objectives were: 1) determine YMP vulnerabilities, risks, and liabilities associated with environmental management practices, compliance status, and environmental conditions; 2) assure management that potential exposure to compliance problems is known and being reduced to acceptable levels; 3) verify adequacy of environmental management and organizational

structure; 4) determine compliance with DOE Orders and YMP environmental plans, policies, and procedures; and to 5) identify and assure correction of deficiencies.

AUDIT SCOPE

The following protocols were included in the audit scope: Performance Objectives and Criteria for Environmental Management; Resolutions of Environment, Safety and Health Concerns; Occurrence Reporting and Processing of Operations Information; Environmental Safety and Health Protection Program of U.S. Department of Energy Operations; and the Environmental Training Program.

AUDIT TECHNIQUES

Audit information was obtained and verified through the use of various techniques. First, interviews were conducted with DRI personnel. These interviews helped to determine the interaction between various DRI organizational units and to assess general understanding of environmental management systems and adherence to procedural requirements. Second, documents pertaining to environmental policies, procedures, and other relevant subjects were reviewed to verify the formality of the system and to confirm interview information. Third, direct observations of personnel, processes, and procedures further verified and supported data obtained through interviews and document reviews. Finally, audit checklists were developed and used to facilitate the audit techniques, to evaluate procedural and regulatory practices, and to identify areas of deficiency and areas of excellence.

AUDIT FINDINGS

Environmental management audit findings may be assigned to one of three finding categories: best management practice, compliance, and noteworthy practice. Briefly defined, a compliance finding (CF) is a condition that may not comply with regulatory or procedural requirements; a best management practice finding (BMPF) indicates a condition where management practice(s) could be improved; and a noteworthy practice finding (NPF) identifies conditions of merit that are applicable to other YMP activities. Based on the judgement of the audit team, findings in two of the above categories were identified: best management practice findings and compliance findings.

The audit investigative process produced a total of eight findings in the BMPF and CF categories. The proportion of best management practice findings and compliance findings to total findings was approximately 65 percent and 35 percent, respectively. The majority of the best management practice findings resulted from application of environmental management and performance objectives and criteria to the existing DRI environmental organization/program for its YMP activities. BMPFs generally revealed that DRI has not established a formal environmental protection program for its YMP activities and that DRI has not documented within its organizational structure clear lines of responsibility and authority for environmental protection relative to its YMP archaeological studies. The compliance findings generally revealed that DRI is either not on distribution for Administrative Procedures (APs) and other documents pertinent to their YMP activities, or, if the procedures and plans have been obtained, they have not been widely distributed within DRI. As a result, DRI could not effectively ensure that its YMP-related

activities were conducted in accordance with YMP environmental protection procedural guidance. Table ES-1 summarizes Environmental Management Audit FY93B findings.

OBSERVATIONS/CONCLUSIONS

DRI management, supervisors, and staff exhibited a high degree of understanding and acceptance of the importance of environmental protection and a positive attitude toward the environmental aspects of their job responsibilities. This outlook is highlighted by the DRI Project Manager's active participation and assistance in this audit and by the fully cooperative, helpful, and positive attitude of DRI personnel toward audit team members.

While findings from this audit are relatively few in number, the substance of the management and compliance deficiencies identified is not insignificant and requires correction. DRI management has indicated their intention to actively pursue corrective action and, in fact, some corrective actions have already been initiated. In addition, both the POCD Director and the T&MSS ECPD Manager have indicated that assistance to DRI will be provided whenever required.

Based on audit objectives, the following conclusions may be drawn with respect to the subject areas named in the audit scope: YMP vulnerability, risk, and liability associated with DRI environmental management and compliance practices are currently minimal-- primarily because of the limited scope of DRI activities at the YMP--and will improve with correction of identified deficiencies; DRI is aware of the findings cited in this report and is taking or will take action to correct identified deficiencies; for its YMP-related activities, DRI needs to develop a formal environmental protection program complemented by an organizational structure with clearly defined authority and responsibility; and DRI should take action to obtain all pertinent DOE Orders and YMP environmental plans/policies/procedures to ensure that activities are conducted in accordance with existing procedural guidance.

ES-4

AUDIT PROTOCOL	BEST MANAGEMENT PRACTICE FINDINGS	COMPLIANCE FINDINGS	OBSERVATIONS/ ISSUES
Environmental Management Performance Objectives and Criteria (DOE/EH-0229)	3		<p>DRI's organizational structure does not formally address the functions, responsibilities and authorities for YMP-related environmental compliance and protection.</p> <p>DRI has no formal environmental protection program to insure that DRI conducts its YMP activities in accordance with YMP procedures and plans.</p> <p>DRI Managers have not formally stated their commitment to environmental excellence.</p>
Resolutions of Environment, Safety and Health Concerns (AP-6.18)		1	DRI is not in compliance with the provisions of AP-6.18 that establish a process to stop actions when imminent danger is suspected.

TABLE ES-1 ENVIRONMENTAL MANAGEMENT AUDIT FY93B FINDINGS SUMMARY

ES-5

AUDIT PROTOCOL	BEST MANAGEMENT PRACTICE FINDINGS	COMPLIANCE FINDINGS	OBSERVATIONS/ ISSUES
Occurrence Reporting and Processing of Operations Information (AP-2.9)	1	1	DRI is not on distribution for AP-2.9 and therefore is not in compliance with those procedures that establish specific occurrence reporting and processing guidance for YMP participants. Individual responsibilities for YMP occurrence reporting and processing were not clearly established or defined within the DRI organizational structure.
Environmental Safety and Health Protection Program of U.S. Department of Energy Operations (AP-5.43)	1	1	DRI has not incorporated the required steps from AP-5.43 into their ES&H Program or their Safety and Health Plan. These required steps include having a formal ES&H Plan and conducting internal appraisals of the DRI ES&H Program. DRI is not on the controlled distribution list for AP-5.43, nor were they familiar with the content in AP-5.43, prior to this audit.

TABLE ES-1 ENVIRONMENTAL MANAGEMENT AUDIT FY93B FINDINGS SUMMARY (continued)

AUDIT PROTOCOL	BEST MANAGEMENT PRACTICE FINDINGS	COMPLIANCE FINDINGS	OBSERVATIONS/ ISSUES
ENVIRONMENTAL TRAINING PROGRAM (YMP/91-27)			

ES-6

TABLE ES-1 ENVIRONMENTAL MANAGEMENT AUDIT FY93B FINDINGS SUMMARY (continued)

Section 1.0 - INTRODUCTION

1.1 Oversight Responsibilities

The U.S. Department of Energy (DOE) is committed to performing its activities in an environmentally safe and sound manner in accordance with applicable environmental statutes and regulations. A primary objective of the DOE and the Yucca Mountain Site Characterization Project Office (YMPO) is to provide oversight of environmental performance, in support of the broader goal of achieving full compliance and excellence in the environmental area. The environmental program is structured to achieve this objective and satisfy applicable statutory requirements. It is integrated with other programs under the direction of the DOE Office of Civilian Radioactive Waste Management (OCRWM).

The YMPO, as part of OCRWM, is responsible for all activities at the Yucca Mountain site. The Project Manager (PM) is the authorized official responsible for managing all Yucca Mountain Site Characterization Project (YMP) activities including the environmental protection program.

The YMPO Project and Operations Control Division (POCD) Director is responsible for the environmental program and for daily activities being performed in compliance with applicable environmental requirements, permit stipulations, and management procedures. To insure that YMP activities are undertaken and conducted in an environmentally sound manner, the Technical and Management Support Services (T&MSS) Environmental Compliance and Permitting Department (ECPD) was tasked to develop an environmental audit program and to conduct oversight assessments of YMP Participant organizations. The Desert Research Institute (DRI) was designated by the POCD Director as the subject of an environmental management audit under this program. This report documents the results of the DRI audit designated Environmental Management Audit FY93B.

1.2 Environmental Management Audit Purpose and Objectives

The environmental compliance policy of the DOE/YMP is full compliance with the letter and spirit of environmental laws, regulations, and requirements as an integral part of DOE/YMP operations. Within the context of this policy, the purpose of this audit as described in the audit plan (Appendix A) was to assess DRI's environmental management program to assure consistency with environmental procedures, regulations, and standards associated with YMP site characterization activities.

The general objectives of this audit were to: 1) determine YMP vulnerabilities, risks, and liabilities associated with environmental management practices, compliance status, and environmental conditions, and ; 2) assure management that potential exposure to compliance problems is known and being reduced to acceptable levels; 3) verify adequacy of environmental management and organizational structure; 4) determine compliance with DOE Orders and YMP environmental plans/policies/procedures; and to 5) identify and assure corrective action of deficiencies.

1.3 DRI Profile

The Desert Research Institute is an independent, statewide division of the University and Community College System of Nevada that conducts full-time environmental research. DRI has the world's largest multidisciplinary faculty conducting environmental research in arid lands. DRI's 400 scientists, technicians and staff carry out more than 100 research projects every year.

The institute has laboratories in Las Vegas, Reno, Stead, Laughlin, and Boulder City, Nevada. DRI is organized into five centers: Atmospheric Sciences, Biological Sciences, Energy and Environmental Engineering, Water Resources, and Quaternary Sciences. DRI's Yucca Mountain Site Characterization Project Archaeological Studies Program is organizationally a part of the Quaternary Sciences Center's Southern Nevada Archaeological Program.

Unlike universities, DRI does not grant tenure to its faculty. Salaries and research programs are funded through contracts and grants obtained in the competitive marketplace. The institute has an annual budget of more than \$20 million: about \$18 million through research contracts and grants, and about \$2 million from the State of Nevada.

DRI's scientists hold 75 doctorate and 85 master and bachelor degrees in more than 50 different disciplines. Every year DRI scientists write hundreds of proposals, presentations, papers, reports, and journal articles, and teach about 25 graduate courses at Nevada's universities and community colleges. DRI employs and advises up to 50 graduate student research assistants, and hires several high school science teachers as summer fellows each year. The institute manages several programs for the university system, including the Dandini Research Park in Reno, the Nevada Space Grant Consortium, and the Cooperative Institute for Aerospace Science and Terrestrial Applications, one of three national centers of excellence in land remote sensing.¹

¹Information extracted from Desert Research Institute Information Brochure, February 1993.

Section 2.0 - SITE LOCATION AND DESCRIPTION

2.1 Site Location

The Yucca Mountain site is located in Nye County, Nevada, approximately 100 miles northwest of Las Vegas, Nevada. Primary ground access to the site is via U.S. Highway 95. The Project site is on the southwestern boundary of the Nevada Test Site (NTS) and includes U.S. Air Force (USAF) and Bureau of Land Management (BLM) lands. Access to USAF and BLM lands has been obtained by rights-of-way granted to DOE.

2.2 Site Description

The Yucca Mountain site is in the southern Great Basin of the Basin and Range Province, a regional setting characterized by linear mountain ranges separated by intervening valleys with few flowing streams or rivers.

The Project site encompasses ecological zones ranging from the Mojave Desert to the south through a transition zone that extends beyond the site boundary to the cooler and wetter Great Basin Desert to the north. Soils are generally rocky or sandy and dry primarily supporting low bushes and shrubs. Yucca Mountain, a long north-south aligned volcanic ridge of 4,900 feet elevation, is the major topographical feature of the site. The mountain slopes steeply west to Crater Flats and gradually east to Jackass Flats. The largest of five washes that cross the site east of Yucca Mountain is Fortymile Canyon that drains to the Armagosa Valley 15 to 20 miles south.

2.2.1 Climate

The climate at the Project site is characterized by considerable solar radiation, little precipitation, low relative humidity, and large temperature ranges. July and August have the highest average maximum daily temperatures (mid-nineties); December and January the lowest (low-fifties). Average annual precipitation is less than six inches and is concentrated in the winter months. Southerly winds are most common in the spring and summer; northerly winds dominate in fall and winter. Average monthly wind speeds range from approximately nine miles per hour in April to six miles per hour in November.

2.2.2 Water Resources

Free-flowing surface water does not exist at the Project site. Drinking water is pumped from groundwater sources. Water tables are generally deep beneath the surface of the ranges and most valleys with recharge from precipitation falling at higher elevations to the north. The Project site overlies two aquifers--one local and relatively shallow (approximately 1,600 feet deep), the other regional and very deep (probably in excess of 4,100 feet). Most groundwater discharges south and southwest of the site in Armagosa Valley and Death Valley.

2.2.3 Biological Resources

Plant associations of two different botanical zones are recognizable at the Project site. At lower elevations, creosote bush, bursage, and blackbrush comprise the vegetation associations. Creosote bush, boxthorn, and hopsage characterize middle elevations, and boxthorn and hopsage dominate higher elevations. Despite the number of species found at the site, plant life is considered generally sparse, typical of any desert region.

As many as 46 species of mammals may occur in the vicinity of the site. Most numerous are rodents, followed by jackrabbits and cottontails. Mammalian predators include the coyote, and to a much lesser extent, the bobcat, badger, and kit fox. None of the species present are threatened/endangered but all fur-bearing animals are protected by the State of Nevada.

Site-specific surveys in 1982 recorded 35 bird species including 6 species of raptors. No permanent or seasonal bird species are threatened or endangered; the endangered Peregrine Falcon may occasionally migrate through the area.

Reptiles are represented at the site by eight species of lizards, four snake species, and one species of tortoise. The tortoise species is the Desert Tortoise, listed as threatened by the U.S. Fish and Wildlife Service (USFWS) and the subject of an intensive study program at the site.

2.2.4 Cultural Resources

Archaeological resources found at the site indicate significant past use by small, highly mobile groups of aboriginal hunter-gatherers. These aboriginal groups were followed by Euroamericans who made limited use of the site area for travel, transportation, prospecting, surveying, and possibly ranching. As a result of numerous archaeological surveys in the project area over 450 historical properties have been identified.

2.2.5 Demography

Counties bordering the Project site are essentially rural with low population density (approximately 0.5 person per km²). The county populations (1990 census) are as follows: Lincoln - 3,775; Nye - 17,781; Esmeralda - 1,344; and Inyo (California) - 18,281. Clark County, to the southeast and well outside the study area, has a population of 741,459 distributed as follows: Las Vegas - 258,295; Henderson - 64,942; North Las Vegas - 47,707; Boulder City - 12,567; Mesquite - 1,871; other - 356,077.

2.2.6 Land Use

The Project site is on lands controlled by the DOE, the USAF, and the BLM. Access to much of the land is restricted. Lack of surface water and the generally harsh desert conditions prevalent in the area limit opportunities for agriculture or recreation on lands immediately adjacent to the site. The nearest agricultural areas are the Armagosa Valley, 15 miles south, and the Pahrump Valley, 60 miles southeast. No BLM grazing leases have been issued for lands surrounding the site. Mining activity takes place at Bare Mountain, 12 miles away, and near the town of Beatty. Outdoor recreation occurs to the south and southwest of the site.

Section 3.0 - AUDIT PROCESS

3.1 Audit Scope

The scope of Environmental Management Audit FY93B included evaluations of DRI's environmental management program to determine if the program had sufficient structure and formality to assure consistency with environmental procedures, regulations, and standards associated with Yucca Mountain Site Characterization Project (YMP) activities. Specific subject areas, based on YMP Administrative Procedures (APs), Performance Objectives and Criteria for Conducting U.S. Department of Energy (DOE) Environmental Audits, the YMP Training Management Plan, and a YMP Field Operations Instruction (FOI) were evaluated during the audit. These specific areas were: Performance Objectives and Criteria for Environmental Management; Resolutions of Environment, Safety and Health Concerns; Reporting and Processing of Operations Information pertinent to the YMP environmental programs; Environmental Safety and Health Protection Program of U.S. Department of Energy Operations; and the effectiveness of DRI's environmental training program. The APs, Training Management Plan, and FOI that formed the basis for the audit are provided in Appendix B.

3.2 Audit Schedule

All audit activities conducted during the pre-audit, audit, and post-audit phases of Environmental Management Audit FY93B are shown in Appendix C1. A detailed schedule of daily activities during the June 14-18, 1993 audit phase is also shown in Appendix C2.

3.3 Team Composition

The DRI Environmental Management Audit FY93B was conducted by an audit team (AT) comprised of an Audit Team Leader (ATL), Technical Coordinator, and technical specialists from the Technical and Management Support Services (T&MSS) Environmental Compliance and Permitting Department (ECPD) as audit team members. AT member biographical sketches and primary audit responsibilities are listed in Appendix D.

The ATL managed the team and served as the primary contact point with the Project and Operations Control Division (POCD), the ECPD, and DRI. Additional ATL responsibilities were audit team organization, staffing, and support as necessary to ensure audit report accuracy, objectiveness, and thoroughness. The ATL provided overall policy guidance to the AT and was the liaison with DRI contacts for administrative matters. He was also responsible for review of daily reports, agenda revisions, staff supervision, records maintenance, audit report production, and audit closeout activities.

The Technical Coordinator, an experienced, technically qualified, senior environmental staff member, directed the technical efforts of the AT members and monitored audit results in close coordination with the Team Leader.

The AT core membership was composed of ECPD technical specialists. Team member selection was based on knowledge of contemporary environmental issues, statutes, regulations, and YMP regulations and administrative procedures for matters pertinent to their technical specialty areas.

3.4 Audit Techniques

Various auditing techniques were employed to obtain information regarding compliance with regulatory requirements, to find out if written policies were being carried out in actuality, to assess whether operations were safe and environmentally wise, and to determine if good management practices were in evidence. Information was gathered through interviews with DRI personnel engaged in the YMP activities and with personnel in other Participant and support organizations. A summary table of audit contacts and interviews is provided in Appendix E. During both the pre-audit and audit phases, document reviews were conducted. The documents included environmental-related policies, procedures, work instructions, occurrence reporting, and other pertinent documents. The purpose of these document reviews was to gain an understanding of DRI operations and existing and potential problem areas in order to direct the audit focus to relevant areas. A list of documents reviewed is provided in Appendix F. Direct observation of personnel, work-site processes, and compliance procedures was a technique employed by all audit team members to verify and support information obtained through interviews and document reviews.

Audit checklists were developed directly from their respective procedures (Appendix B) or from DOE environmental management performance objectives to facilitate employment of the audit techniques described above. The checklists also helped to ensure that all aspects of an environmental management process or of a particular procedure were adequately covered. The checklists were used by the auditors to assess adherence to procedural and regulatory practices and to identify areas of management deficiency or environmental non-compliance. Prior to the audit, copies of all checklists were provided to DRI for review and to assist with audit preparation.

3.5 Findings

3.5.1 Findings Support Data

Using the audit techniques described in Section 3.4 above, a variety of data were obtained by each AT member to support potential findings. These information elements included:

- The specific nature of the problem, issue, condition, or practice.
- A detailed location, if appropriate.
- The framework or perspective in which the problem exists.
- The regulatory standard or procedure being violated.
- Supporting information describing the problem or practice, or events leading to the problem.
- Information on whether DRI is aware of the issue and actions being taken to address the problem or practice

- Information on how the AT member learned of the problem or practice.

3.5.2 Findings Development

Development and validation of findings was an interactive process that involved discussion among the individual AT member, ATL, Technical Coordinator, and other team members to arrive at a well-documented, defensible finding statement. It should be noted that the existence of a planned or in-progress corrective action did not eliminate the basis for a finding, but such action was noted in the finding discussion.

All findings were reviewed by the ATL, Technical Coordinator, and other team members. The purpose of these reviews was to ensure that the findings were technically accurate and complete, in the correct format, and that they were clear, concise, and grammatically correct. In addition, potential findings under review by the audit team were briefed daily to REECO personnel to obtain verbal comments.

3.6 Meetings

The ATL conducted daily caucus sessions with the audit team. These caucus sessions were held for the benefit of the auditors to exchange information, review team observations, discuss potential findings, identify problem areas, and to make adjustments to the daily agenda. Caucus sessions helped ensure the progress of the audit plan and permitted modification or redirection of the plan, as appropriate. These sessions also served to validate data and provide additional assurance of the factual accuracy of observations and potential report findings prior to closeout of the on-site audit activities.

A daily debriefing was conducted for the benefit of the audited organization and was open to appropriate DRI personnel. These personnel interacted with AT members during discussion of issues and potential findings to help insure the technical accuracy of the information being used to develop the potential findings.

A formal closeout meeting at the conclusion of audit activities was conducted by the ATL. Meeting attendees included the Technical Coordinator, AT members, and DRI personnel. The purpose of the closeout meeting was to provide an overview of the audit process and discuss tentative results of the audit.

3.7 Working Papers and Records

Each team member used a logbook and maintained comprehensive, organized, and coherent working papers to describe information gathered, how it was gathered (e.g., direct observations, interviews, document reviews), the sources of information, and any other data necessary to support findings contained in this report. The working papers were developed as official records of the audit and their use began concurrently with the team member's

participation in the audit. The following items were developed or updated as part of the compliance audit records:

- Daily agenda
- Meeting notes and attendance sheets
- List of interviews
- List of documents reviewed
- Daily activities report
- Problems encountered on a daily basis

This audit generated no quality assurance records. Copies of the audit report, correspondence, logbooks, and all other documents created as a result of pre-audit, audit, and post-audit activities will be kept to document this audit and will comprise the audit administrative record file. This administrative record file will be submitted to the Las Vegas Local Records Center by the ECPD to be forwarded to the Central Records Facility.

3.8 Post-Audit Activities

In addition to the preparation of this report, other post-audit activities include a briefing, the audit report review and approval process, development of a plan to correct identified deficiencies, verification of the corrective action, and audit closure.

3.8.1 POCD Briefing

Following the on-site audit phase and the audit closeout briefing to DRI personnel (Section 3.6 above), the ATL briefed the POCD Director, the T&MSS Assistant Project Manager (APM) for Environmental and Regional Programs, and the T&MSS ECPD Manager on the audit and findings.

3.8.2 Audit Report Review and Approval

The audit report will be provided to the T&MSS ECPD Manager for review and approval. On completion of the ECPD Manager's review/approval process, the audit report will be forwarded to the POCD Director for final review and approval.

3.8.3 Plan to Correct Deficiencies

The POCD Director will transmit the approved audit report to the DRI Project Manager for the YMP Archaeological Studies Program and formally request the development of a plan to address the audit findings. The DRI Project Manager or designee will prepare or direct the preparation of the plan by DRI personnel. When complete, DRI will submit the plan to the POCD Director for approval. The DRI Project Manager will be responsible for ensuring

implementation of the approved corrective actions and for tracking DRI adherence to the plan and any other activities undertaken to address the audit findings.

3.8.4 Corrective Action Verification and Audit Close

Verification of corrective action completion will be documented by the ATL and a brief, written report closing the audit will be submitted by the Team Leader to the POCD Director.

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Section 4.0 - ENVIRONMENTAL MANAGEMENT AUDIT FINDINGS

Audit findings may be conveniently divided into three general categories: best management practice findings (BMPF), compliance findings (CF), and noteworthy practice findings (NPF). Each finding category is defined below:

- **BMPF** - A condition where, in the absence of regulatory requirements and in the professional judgment of the audit team, management practices could be improved.
- **CF** - A condition that, in the judgement of the audit team, may not satisfy federal or state environmental regulations, applicable U.S. Department of Energy (DOE)/Yucca Mountain Site Characterization Project (YMP) orders and directives, permit conditions, or site policies/procedures.
- **NPF** - A condition or finding that, in the judgment of the audit team, is noteworthy and will have application to other YMP activities or participants.

The Technical and Management Support Services (T&MSS) environmental management audit team identified findings in two of the above categories: best management practice findings and compliance findings. Each finding category applicable to the audited subject area is presented in the following sections of this audit report. The findings presented in each section are not necessarily arranged in order of relative significance. Section 4.5, Environmental Training Program, had no findings.

4.1 Environmental Management Performance Objectives and Criteria (EMP)

4.1.1 Overview

The U.S. Department of Energy (DOE) Environmental Management Performance Objectives and Criteria (POC) provide a framework for an environmental management program that is of sufficient structure and formality to assure that Yucca Mountain Site Characterization Project (YMP) activities are conducted in a manner consistent with the spirit and letter of environmental regulations and DOE orders. The environmental POCs generally concentrate on programmatic conditions not tied to specific regulations, statutes and standards. They focus on the objectives that must be achieved for effective environmental management, and are used as a tool to evaluate whether the existing management system can provide the needed discipline and control for environmental protection and compliance.

Three performance objectives and their associated criteria were used to assess the Desert Research Institute's (DRI) environmental management program for the YMP. These are (1) the formality of DRI's environmental protection program, (2) the organizational structure of the environmental protection program, and (3) culture and attitude. The formality of the environmental program considers whether or not YMP-related environmental protection activities are conducted in accordance with a defined program that is supported by controlled

documentation. The organizational structure should provide a clear definition of the functions, responsibilities, and authorities for an environmental protection program. The culture and attitude performance objective considers the extent to which an organization exhibits a positive attitude and a culture committed to environmental excellence.

The information for this audit was obtained through interviews with DRI personnel assigned to YMP activities, a review of YMP/DRI documents, and direct observations of work in progress at the DRI archaeological data recovery site at Alice Hill. Information thus obtained resulted in three best management practice findings. These findings generally revealed that DRI has not established a formal environmental protection program for its YMP activities and that DRI has not documented within its organizational structure clear lines of responsibility and authority for environmental protection relative to its YMP archaeological studies. Concerning culture and attitude, protection of cultural resources as an integral part of the YMP environmental compliance program is the mission of DRI's YMP activities. Audit interviews with DRI management and supervisory staff revealed a high degree of understanding and acceptance of the importance of environmental protection as well as a recognition of the environmental aspects of their job responsibilities. However, DRI managers have not formally stated their commitment to YMP environmental excellence nor are there any formal mechanisms or a framework for insuring participation by management in YMP environmental protection activities. A management-related consensus observation from the audit team was that deficiencies appear to exist in DRI's internal and external channels of communication for the transfer of YMP environmental information or for addressing environmental protection concerns.

4.1.2 EMP Best Management Practice Findings

Finding Number: EMP/BMP-1

Finding Title: Deficiency in Clearly Defined Organizational Structure to Support YMP Environmental Compliance and Protection.

Regulatory Requirement: None.

DOE Policy Guidance: DOE/EH-0229, Performance Objectives and Criteria for Conducting DOE Environmental Audits. POC EM.1, Organizational Structure.

Finding: DRI's organizational structure does not formally address the functions, responsibilities and authorities for YMP-related environmental compliance and protection.

Discussion: The YMP archaeological studies program is identified on a DRI organizational chart as a division of DRI's DOE/Nevada Operations office (NV) Environmental Research Program. This organizational chart indicates that environmental health and safety support for DRI's YMP activities is a functional area of the DOE/NV Environmental Research Program. Audit interviews indicated that the key positions for YMP environmental responsibility, authority, and accountability are the DOE/NV Environmental Research Programs Project Manager, the YMP Archaeological Studies Program Project Manager, the DRI Environmental, Health and Safety (EH&S) Officer, and the DRI Classified and Unclassified Security Officer. However, there does not appear to be any formal statement or other documentation that clearly

defines primacy in matters related to YMP environmental compliance and protection. The DRI EH&S Officer indicated that he was "by default" the YMP environmental compliance officer. Other managers and supervisors indicated that there are no formal policies or directives that identify specific responsibilities, authority, or accountability for YMP-related environmental protection and compliance. DRI does not appear to have any formal mechanism for field units to report YMP-related environmental concerns or issues to upper management, and there is no function with an oversight role for YMP environmental protection.

Finding Number: EMP/BMP-2.

Finding Title: Lack of Formal Environmental Management Program.

Regulatory Requirement: DOE Order 5480.19, Conduct of Operations Requirements for DOE Facilities.

DOE Policy Guidance: DOE/EH--0229, Performance Objectives and Criteria for Conducting DOE Environmental Audits, POC EM.4, Formality of Environmental Programs.

Finding: DRI has no formal environmental protection program to insure that DRI conducts its YMP activities in accordance with YMP procedures and plans.

Discussion: DOE Order 5480.19 provides that it is the policy of DOE "that the conduct of operations at DOE facilities be managed with a consistent and auditable set of requirements, standards, and responsibilities." The policy statement also addresses the use of procedures to control the conduct of activities, review of programs, and assessment of program effectiveness. The audit found that DRI does not maintain YMP procedures applicable to environmental compliance and protection for its YMP activities. DRI has no auditable policies, standards, and procedures that are supported by controlled documentation to guide environmental compliance and protection relative to its YMP-related work. Environmental training of DRI YMP staff beyond the required YMP General Employee Training (GET) is not supported or augmented by any coordinated internal training program. There did not appear to be any formal or identifiable lines of communication between management and field staff relative to YMP-related environmental compliance and protection. Similarly, there appears to be a deficiency in lines of communication between DRI and the Yucca Mountain Project Office (YMPO).

Two measures have been taken that could lay the foundation for an environmental protection program at DRI. The University and Community College System of Nevada (UCCSN), of which DRI is a part, has prepared a draft Environmental Health and Safety Statement (Appendix G) which provides "that the development, implementation and compliance monitoring of EH&S programs is integral to the UCCSN mission" and that "each institution shall develop EH&S programs that best address the EH&S problems specific to that institution." Secondly, DRI is currently preparing a YMP EH&S Plan.

The probable cause for this finding may be attributed to a combination of factors. Within its organizational structure, DRI has not formally documented specific management responsibility and authority for YMP-related environmental compliance and protection (Finding EMP/BMP-1 above). DRI has not been included, nor sought to be included, on controlled distribution for the

YMP procedures and plans for environmental protection. One individual within DRI obtained a limited number of procedures and plans, but these documents were not widely distributed within DRI. Approximately two years ago, a DRI staff member was advised by a former T&MSS supervisory-level employee that YMP procedures were not applicable to DRI. However, the YMP Environmental Management Plan (EMP), Section 4.7, and many of the YMP Administrative Procedures (APs) provide for specific applicability to all YMP participants, subcontractors, or supporting personnel. Because DRI's limited scope of YMP work and small project staff is linked directly to environmental protection, it is also probable that DRI has relied on its direct connection to the T&MSS Environmental Compliance and Permitting Department (ECPD) and the YMP Project Operations and Control Division (POCD) to insure that it is in compliance with YMP environmental compliance requirements.

Finding Number: EMP/BMP-3.

Finding Title: Management Commitment to Environmental Excellence.

Regulatory Requirement: None.

DOE Policy Guidance: DOE/EH-0229, Performance Objectives and Criteria for Conducting Environmental Audits, POC EM.2, Culture and Attitude.

Finding: DRI Managers have not formally stated their commitment to environmental excellence.

Discussion: It is a DOE policy that contractors share the Department's commitment to sound environmental management. As previously noted, DRI management and staff scientists recognize and accept environmental protection as an integral part of their YMP scientific work. A formal expression of commitment to environmental excellence by DRI management would document DRI's intentions to conduct its YMP-related activities in an environmentally sound manner. Management's formal commitment to environmental excellence would also serve as part of the framework for an effective environmental protection program.

The probable causal factor for this finding is that DRI does not have a formal environmental protection program that focuses on management commitments and objectives for insuring environmental compliance relative its YMP-related activities.

4.2 Resolutions of Environment, Safety and Health Concerns (REC)

4.2.1 Overview

The purpose of AP-6.18, Resolutions of Environment, Safety and Health Concerns (Appendix B4), is to 1) provide a process to stop activities when imminent danger involving the safety or health of YMP personnel, the public, or damage to the environment or natural barriers is suspected, 2) to initiate actions in response to these dangers, 3) to verify implementation of corrective actions, and 4) to restart work. This procedure is intended to implement response actions whenever serious environment, safety or health hazards appear to exist. Implicit in AP-

6.18 is the right and obligation of a project Participant to immediately cease operations when Participant personnel jeopardize themselves or the work environment. AP-6.18 contains the following key provisions:

- Defines practices/conditions that may require work interruption or stoppage for non-quality affecting work.
- Defines individual responsibilities to report practices/conditions that may represent unacceptable risk to life, health, environment, property, or completion of authorized YMP mission-essential work.
- Identifies those with responsibility and authority to alleviate environment, safety or health concerns.
- Describes the process to implement and verify corrective actions before an undue risk activity is resumed.

The purpose of this audit protocol was to evaluate DRI's knowledge and compliance with AP-6.18 and with overall environmental, safety and health concerns. Audit methodologies included personnel interviews, document reviews, and direct observation of archaeological site activities. The audit resulted in one compliance finding; there were no best management or noteworthy practice findings.

4.2.2 REC Compliance Finding

Finding Number: REC/CF-1

Finding Title: Procedural Non-Compliance

Regulatory Requirement: AP-6.18, Resolution of Environment, Safety and Health Concerns, applies to all YMP Participant field activities, activities in the Bank of America Center, and other locations as approved by the YMPO.

Finding: DRI is not in compliance with the provisions of AP-6.18 that establish a process to stop actions when imminent danger is suspected.

Discussion: When interviewed, the DRI Project Director indicated that DRI is not on controlled distribution for AP-6.18. This is the likely causal factor for the finding specified above. Further interviews with the DRI Project Manager, Security Officer, and the ES&H Officer confirmed the above, and further revealed that neither is there a DRI internal written procedure that is the functional equivalent of AP-6.18. Absent DRI possession/use of AP-6.18, it was decided to forego application of the AP-6.18-based checklist developed for this protocol.

As a result of this audit, it was the judgement of the Audit Team that DRI should either 1) directly incorporate the provisions of AP-6.18 into the DRI environmental management program for YMP activities, or 2) generate a DRI procedure parallel to AP-6.18 that would address resolutions of environment, safety and health concerns. The DRI Project Manager agreed upon issuing a procedure within a one or two month time frame.

4.3 Reporting and Processing of Operations Information (RAP)

4.3.1 Overview

AP-2.9, Occurrence Reporting and Processing of Operations Information, (Appendix B1) assigns responsibility and provides a process for reporting occurrences and events related to all Yucca Mountain Site Characterization Project participants. This procedure defines a system to (1) identify any and all reportable conditions and events, (2) provide for the assignment of Facility Managers and Facility Representatives, (3) provide notice to appropriate management personnel, (4) set out a structure for decisions and actions relative to the unusual occurrence, and (5) provide for a record of the unusual occurrence and all related follow-up and corrective actions.

The purpose of this audit protocol was to examine the internal procedures and practices that had been developed by DRI to implement the provisions of AP-2.9, and to determine if the procedures were effectively ensuring reportable occurrences were handled properly. This was accomplished through interviews with DRI YMP field and management personnel and a review of the DRI Occurrence Reporting Plan and Processing Procedures and related internal memoranda. In addition, a visit was made to the Alice Hill archaeological data recovery site to observe DRI field operations and discuss with field personnel their understanding of the YMP occurrence reporting requirements.

The interviews and review of pertinent internal documents revealed that DRI was not on distribution for AP-2.9 and therefore their internal occurrence reporting plans and procedures had not been adapted to meet the requirements of the YMP procedure. As a result, formal internal guidance was not available for ensuring that occurrence reports were processed properly through the YMP management system. Also, it appeared that responsibilities had not been clearly defined within the DRI organizational structure to ensure all aspects of the occurrence reporting program were managed or implemented as effectively as possible.

4.3.2 RAP Compliance Findings

Finding Number: RAP/CF-1

Finding Title: Procedural Non-Compliance

Regulatory Requirement: The Statement of Work for Contract NO. DE-AC08-90NV10845 specifies that "the contractor shall comply with the applicable federal, state, and local environmental laws,....and implementing regulations and rules" which have been incorporated as applicable into the YMP Administrative Procedures. Additionally, AP-2.9, Occurrence Reporting and Processing of Operations Information specifies that it "applies to all YMP offices, personnel, YMP Participants, and any subcontractor or supporting personnel and facilities."

Finding: DRI is not on distribution for AP-2.9 and therefore is not in compliance with those procedures that establish specific occurrence reporting and processing guidance for YMP participants.

Discussion: DRI has an internal document, Occurrence Reporting Plan and Processing Procedures which is based on DOE Order 5000.3B, Unusual Occurrence Reporting System and the supporting DOE/NV Order 5000.3A, Occurrence Reporting and Processing of Operations Information. Although this DRI document was developed primarily in support of DOE activities at the Nevada Test Site (NTS), it specifies that it is applicable to "all DRI personnel working at the NTS, other DOE facilities, or at DRI facilities where work on the DOE contract is performed." It was therefore considered by the DRI staff as being applicable to their YMP personnel and recurring internal training guidance reinforced the notification and reporting procedures outlined in that document.

DRI's current procedures direct all personnel to report occurrences through the NTS duty officer and the DOE Nevada Occurrence Reporting System Operations Center (NORSOC). Since DRI was not on distribution for AP-2.9 and was unaware of the specific YMP notification and processing requirements of AP-2.9, they lacked accurate written guidance for notifying the YMP Field Operations Center (FOC), site/project management personnel and, as necessary, the Project and Operations Division (POCD) in the event of a reportable occurrence. It should be noted, that as a result of GET training, DRI field personnel were generally aware of the existence of occurrence reporting procedures.

4.3.3 RAP Best Management Practice Finding

Finding Number: RAP/BMP-1

Finding Title: Delegation of Responsibilities

Regulatory Requirement: Not Applicable (N/A)

Finding: Individual responsibilities for YMP occurrence reporting and processing were not clearly established or defined within the DRI organizational structure.

Discussion: Overall responsibilities for the development, implementation, and training of occurrence reporting and processing procedures appeared to be focused primarily on the Occurrence Reporting (OR) Coordinator who is the Security Manager for all DRI activities. This individual has been assigned as the Facility Manager designee in DRI's Occurrence Reporting Plan and is responsible for processing occurrence information through DOE's Occurrence Reporting and Processing System (ORPS).

The five different research centers within DRI may have individual requirements and responsibilities for occurrence reporting that are not fully known to the OR Coordinator. The OR Coordinator indicated concern that individual research centers may have unique activities, procedures, and training requirements that may need to be incorporated into DRI's overall occurrence reporting program. However, responsibilities have not been assigned or defined within the project/center levels to identify these requirements to the OR Coordinator. As a result, the Coordinator may lack the information and assistance needed to conduct the occurrence reporting process in the most effective manner. This may be a causal factor that contributed to the compliance finding described in Section 4.1.3 above.

4.4 Environmental Safety and Health Protection Program of U.S. Department of Energy Operations (EPP)

4.4.1 Overview

YMP procedures have been developed to ensure that all YMP activities are undertaken and conducted in an environmentally sound manner. AP-5.43, Environmental Safety and Health Protection Program for U.S. DOE Operations (Appendix B2), was used to determine if YMP activities performed by DRI comply with YMP environmental, safety and health requirements. This AP is derived from requirements found in the YMP Safety and Health Plan, (YMP/90-37) and the YMP Environmental Management Plan, (YMP/CC-0006).

Audit data were collected from interviews with DRI personnel and review of YMP/DRI documents. The environmental, safety and health data collected provided the basis for one compliance finding and one best management practice finding in this area. In general, DRI personnel were not familiar with AP-5.43. DRI personnel are cognizant of environment, safety and health protection as the basis for their work, but they have not incorporated YMP procedural steps into their work activities.

4.4.2 EPP Compliance Finding

Finding Number: EPP/CF-1

Finding Title: Procedural Non-Compliance

Regulatory Requirement: AP-5.43 "applies to all YMP Participant organizations and their employees."

Finding: DRI has not incorporated the required steps from AP-5.43 into their ES&H Program or their Safety and Health Plan. These required steps include having a formal ES&H Plan and conducting internal appraisals of the DRI ES&H Program.

Discussion: DRI has written a YMP-specific DRI Safety and Health Plan. This plan, currently in draft form, has been reviewed by the YMP Site Manager. It has not been submitted for review by the YMP Project Manager, as required by AP-5.43. AP-5.43 also requires all YMP Participants to conduct internal environmental, safety and health appraisals, prepare and submit written appraisal reports to the YMP Project Manager, the DOE S&H Officer, and the POCD Director. Internal appraisals have not been conducted by DRI.

The probable causal factor for this finding is that DRI did not have/was not familiar with AP-5.43 (See also EPP/BMP-1 below).

4.4.3 EPP Best Management Practice Finding

Finding Number: EPP/BMP-1

Finding Title: Lack of Management Communication

Regulatory Requirement: None

Finding: DRI is not on the controlled distribution list for AP-5.43.

Discussion: DRI personnel did not have a copy of AP-5.43, nor were they familiar with the content in AP-5.43, prior to this audit.

4.5 Environmental Training Program (ETR)

4.5.1 Overview

The purpose of this protocol was to evaluate the DRI's Environmental Training Program to determine if training was provided to Participant employees in accordance with the policies and procedures of YMP/91-27, YMP Training Management Plan (Appendix B5). The following operation instructions were also used as a basis to determine training requirements for this audit protocol:

- YMP-Field Operations Instruction (FOI)-3001, Yucca Mountain Field Training Program (Appendix B6), establishes the guidelines to assure all project Participants, contractors, and sub-contractors have been appropriately trained for conducting field activities. General Employee Training (GET) and General Employee Radiological Training (GERT) shall be required for those individuals who need frequent unescorted access to perform field work. Personnel who have not completed GET/GERT shall be escorted at all times by an individual who has been trained. All project participants, contractors, sub-contractors and DOE personnel are required to comply with GET/GERT training requirements.
- YMP-FOI-4705, YMP Worksite and Area Access, Controls, and Facility Permits (Appendix B7), exists to ensure that adequate controls are established and maintained at selected YMP field work sites and areas. Such control may be required or justified for security reasons, to protect property, personal health and safety, to maintain/assure site technical integrity, and to control and/or protect environmental interests.

During the on-site phase of Audit FY93B, several DRI personnel were interviewed. Interviewees represented a cross-section of job responsibility and duty locations. All were asked to respond to checklist questions addressing the YMP environmental training program. Checklist responses indicated that each interviewee's familiarity with the YMP environmental training program was generally commensurate with their level of responsibility. That is to say, they were familiar with program elements that pertained directly to them. In some cases, however, awareness of training program requirements outside individual areas of responsibility, but pertinent to YMP overall training objectives, was lacking. This situation may be indicative of a communication deficiency between DRI organizational levels. DRI management personnel

recognized this situation, and actions were underway to improve awareness of YMP training requirements and responsibilities within DRI.

DRI personnel, including temporary and part-time employees, had completed all Initial and Recertification GET requirements. Employees are given an agenda to follow for initial training completion. The Project Director/Program Manager receives notification of the due date for employee Recertification training, and that notification, along with a study guide, is provided to the employee who is then responsible to individually schedule the training.

DRI was also in compliance with the provisions of YMP-FOI-4705. DRI personnel were aware of their responsibility to log on/off the project site each day and did so. In addition, measures have been taken to ensure that DRI archaeological sites are not disturbed, visitors are escorted, areas are flagged or roped off, and all site hazards are identified. DRI provided an informative tour and overview of the Alice Hill archaeological data recovery operations for the Audit Team.

APPENDIX A
AUDIT PLAN
FOR
ENVIRONMENTAL MANAGEMENT AUDIT FY93B
OF
THE DESERT RESEARCH INSTITUTE (DRI)
AT THE
YUCCA MOUNTAIN SITE
CHARACTERIZATION PROJECT

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**AUDIT PLAN
FOR THE
ENVIRONMENTAL MANAGEMENT AUDIT
OF
DESERT RESEARCH INSTITUTE (DRI)
AT THE
YUCCA MOUNTAIN SITE
CHARACTERIZATION PROJECT
JUNE 1993**

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1.0

INTRODUCTION

The Yucca Mountain Site Characterization Project Office (YMPO) Project and Operations Control Division (POCD) is responsible for Yucca Mountain Site Characterization Project (YMP) activities being performed in compliance with applicable environmental requirements and permit conditions. To insure that YMP activities are undertaken and conducted in an environmentally sound manner, the Technical and Management Support Services (T&MSS) Environmental Compliance and Permitting Department (ECPD) has been tasked by the POCD Director to conduct environmental audits of YMP Participant organizations and activities.

The objective of the environmental audit program is to evaluate and improve the environmental compliance status of YMP Participants and to reflect the responsibility of Participants for conducting operations in an environmentally safe and sound manner. The Desert Research Institute (DRI) is the subject of Environmental Audit FY93B under this program. DRI, a part of the University of Nevada System, has contracted through the U.S. Department of Energy (DOE) to conduct the YMP archaeological studies.

The environmental audit shall be conducted in accordance with the requirements of the Environmental Regulatory Compliance Plan (ERCP) (DOE/RW-0209), Section 4.4, Environmental Compliance Audit Program, as implemented by Administrative Procedure (AP)-5.46, Environmental Auditing and Surveillance of Yucca Mountain Site Characterization Project Activities.

The scope of Environmental Management Audit FY93B will consist of an assessment of DRI's environmental management program to determine if the program has sufficient structure and formality to assure consistency with environmental procedures, regulations and standards associated with YMP site characterization activities. The audit will evaluate whether the Participant's environmental management program can be expected to provide the discipline and control needed to conduct their operations in a manner that limits risks to the environment and protects the public health. An appropriate structure and formality is implicit within a set of DOE environmental management performance objectives and criteria (POC) that are designed to insure that the conduct of operations by the DOE and its contractors are in compliance with the letter and spirit of applicable environmental statutes, regulations, standards, and DOE orders. The audit scope will include, but not be limited to, the following areas: 1) performance objectives and criteria for environmental management; 2) identification and resolution of concerns that may represent a near-term threat to the public health or environment; 3) environmental protection efforts in the performance of field activities; 4) the implementation and effectiveness of DRI's environmental training program; and 5) the reporting and processing of operations information pertinent to the YMP environmental programs.

2.0

AUDIT TEAM COMPOSITION AND RESPONSIBILITIES

The DRI Environmental Management Audit (FY93B) will be conducted by an audit team (AT) comprised of an Audit Team Leader (ATL), a Technical Coordinator, and technical specialists from the T&MSS ECPD.

The ATL will manage the team and serve as the primary contact point with the POCD, the ECPD, and DRI. The ATL is responsible for audit team organization, staffing, and support as necessary to ensure that the audit report is accurate, objective, and thorough. The ATL, with help from the Technical Coordinator, will provide overall policy guidance to the audit team and will be responsible for the detailed technical conduct and results of the audit. The Team Leader will act as liaison with DRI contacts for administrative matters such as meetings, facilities, safety, and security. The ATL is also responsible for review of daily reports, agenda revisions, staff supervision, records maintenance, audit report production, and audit closeout activities.

The Technical Coordinator will be an experienced, technically qualified, senior environmental staff member. The coordinator will manage and direct the technical efforts of the audit team members in close coordination with the Team Leader.

The core membership of the audit team will be comprised of ECPD technical specialists. Team members will be knowledgeable of contemporary environmental issues, techniques, statutes, regulations, and YMPO regulations and administrative procedures for matters pertinent to their technical disciplines or specialty areas. The names of AT members and their primary responsibilities are listed below:

<u>NAME</u>	<u>DISCIPLINE</u>
Sid Dodd	Audit Team Leader
Greg Fasano	Technical Coordinator
Bob Blakely	Performance Objectives and Criteria for Environmental Management
Asha Kalia	Resolutions of Environment, Safety and Health Concerns
Bob Thompson	Reporting and Processing Operations Information
Kathy Jensen	Environmental Safety and Health Protection Program of U.S. Department of Energy Operations
Debbie Springer	Environmental Training Program

Administrative support will be provided by ECPD administrative staff specialists.

3.0 AUDIT PHASES

For planning and execution purposes, audits may be conveniently divided into three phases: pre-audit, audit, and post-audit. The following sections describe the administrative

and technical activities which are planned to occur in the pre-audit, audit, and post-audit phases of this environmental management audit of DRI.

3.1 Pre-Audit Activities

Pre-audit activities for the DRI FY93B environmental management audit include the following:

- Notice of the audit is provided to the Site Manager.
- Notice of the audit is provided to DRI.
- A pre-audit meeting is conducted.
- Audit information is reviewed, the audit plan is finalized, and an audit agenda is developed.
- The audit agenda and a request for counterparts is forwarded to DRI.
- Environmental management audit training for AT technical specialists is conducted.

The pre-audit meeting will be attended by the Audit Team Leader, Technical Coordinator, and Audit Team members. The purpose of the meeting is to: introduce the audit team; brief DRI personnel on the purpose and scope of the environmental management audit effort; become familiar with DRI management and operation; request information, as required; and coordinate plans for the audit with DRI.

The Audit Team Leader, with concurrence of the ECPD Manager and POCD Director, may make modifications to the audit team composition, the audit plan, and/or the audit checklist based on information obtained or observations during the pre-audit phase.

3.2 Audit Activities

3.2.1 Introductory Briefing

The Audit Team Leader will begin the environmental management audit with an introductory briefing. The briefing will present the goals and objectives of the audit, explain planned activities, and review the daily agenda and applicable procedures. It is anticipated that DRI personnel will present an overview of their organization, operations, and environmental programs.

3.2.2 Reporting Near-Term Threats to Public Health or the Environment

Any acute condition or situation which is or could soon become dangerous to site personnel, the general public, or the environment is generally referred to as a "near-term threat". The Team Leader will be immediately notified if, during the audit phase, the AT

discovers any operation or activity at the site that poses a near-term threat to workers, public health or the environment, or represents a gross violation of regulatory requirements. The Team Leader will then notify DRI, the Site Manager, the ECPD manager, and the POCD Director.

3.2.3 Meetings

The Audit Team Leader will conduct daily caucus sessions with the AT. These caucus sessions are for the benefit of the auditors to exchange information, review team observations, discuss potential findings, identify problem areas, and to make adjustments to the daily agenda. Caucus sessions will help ensure the progress of the audit plan and permit modification or redirection of the plan, as appropriate. These meetings will also serve to validate the factual accuracy of observations and potential report findings prior to the end of the audit phase.

A daily debriefing for the benefit of the audited organization will be conducted and will be open to appropriate DRI personnel. These personnel may interact with AT members during discussion of issues and potential findings to help insure the technical accuracy of the information being used to develop the potential findings.

3.2.4 Working Papers and Records

Each team member will develop a logbook and maintain comprehensive, organized, and coherent working papers to describe information gathered, how it was gathered (e.g., observations, interviews, document reviews), the sources of information, and any other data necessary to support findings contained in the report. During an examination of a logbook, it should be clear by whom, when, and by what manner results were obtained. The working papers will be developed as official records. Use of the logbooks will begin concurrently with the team member's participation in the audit. The logbooks should be reasonably understandable and useful should someone other than the preparer review them. At the close of each day, the audit team member will sign and date the logbook after the last entry.

The following items will be developed or updated as part of the environmental management audit records:

- Daily agenda
- Meeting notes and attendance sheets
- List of interviews
- List of documents reviewed
- Daily activities report
- Problems encountered on a daily basis

3.2.5 Audit Checklists

Checklists have been developed to help ensure that all aspects of a particular procedure or subject area are adequately covered (Appendix B). The response section of each checklist item has a "not applicable (N/A)" check-off option. When the N/A response is checked, it indicates that the audited organization, DRI, is not directly responsible for the accomplishment of the action. The checklists will be used as a guide by the auditors to assess adherence to procedural, regulatory, and best management practices and to identify areas of non-conformance.

3.2.6 Audit Findings

The audit team will identify findings that fall into three general categories: best management practice (BMP) findings, compliance findings, and noteworthy practice findings.

BMP findings are conditions where, in the absence of regulatory requirements and in the professional judgment of the team specialist, Team Leader, and Technical Coordinator, management practices could be improved. In this audit, BMP findings will typically result from shortcomings in the structure or formality of environmental management programmatic controls as delineated in DOE's performance objectives and criteria.

Compliance findings are conditions that, in the judgement of the audit team, may not satisfy federal or state environmental regulations, applicable DOE Orders, YMP procedures, or site policies/procedures.

The third type of finding is a Noteworthy Practice Finding (NPF). This is a condition or finding that, in the judgment of the audit team, is noteworthy and may have application to other YMP activities or participants.

The findings will be presented in sections of the audit report specific to each audited area. The findings in each area will not necessarily be arranged in order of relative significance.

In addition to identifying findings, AT members will identify and document probable causal factors for each finding. Probable causal factors are those underlying reasons why findings occur or may continue to occur, and if addressed, should eliminate the findings in the future. Root causes will not be identified in the audit report. DRI will be required to further evaluate each finding and associated causal factors to determine root cause, which should be addressed in their corrective action plan.

A variety of information will be obtained by the AT member for a potential finding. These information elements include:

- The specific nature of the problem, issue, condition, or practice.
- A detailed location, if appropriate.

- The framework or perspective within which the problem or practice exists.
- The regulatory standard or procedure not being satisfied.
- Supporting information describing the problem or practice, or events leading to the problem.
- Information on whether DRI is aware of the issue and actions being taken to address the problem or practice.
- Information on how the AT member learned of the problem or practice.

The individual team member will discuss the information elements and the potential finding with the Audit Team Leader, Technical Coordinator, and other team members. It will be jointly determined whether or not the information constitutes a finding, and whether additional information should be obtained. Development and validation of a finding is an interactive process which should result in a well-documented, defensible finding statement. It should be noted that the existence of a planned or in progress corrective action does not eliminate the basis for a finding, but will be fully described in the finding discussion.

All findings will undergo one or more reviews by the Team Leader and Technical Coordinator. The Team Leader may request that team members review findings other than their own if they are knowledgeable in another area. The purpose of these reviews is to ensure that the findings are technically accurate and complete, the format is correct, and that they are clear, concise, and grammatically correct before they are incorporated in the audit report.

3.2.7 Technical Accuracy Review

To the extent possible, all potential findings developed by the audit team will undergo a technical accuracy review before the on-site closeout of the audit. This review may be accomplished by having appropriate DRI personnel review findings and provide comments, and/or through meetings of the technical specialist, the ATL and Technical Coordinator, and DRI personnel knowledgeable about the findings under review to obtain verbal comments.

3.2.8 Closeout Meeting

A formal closeout meeting at the conclusion of the audit phase will be conducted by the Team Leader. Meeting attendees will include the Team Leader, Technical Coordinator, audit team members, and appropriate personnel from DRI.

The purpose of the closeout meeting is to provide an overview of the audit process and discuss tentative results of the audit. The Team Leader will also provide a schedule of post-audit activities to the audited organization.

3.3 Post-Audit Phase

3.3.1 Briefing

As soon as possible after the audit closeout, the POCD Director, the T&MSS Assistant Project Manager (APM) for Environmental and Regional Programs, and the T&MSS ECPD Manager will be provided a briefing on the audit and findings.

3.3.2 Audit Report Preparation

The Audit Team Leader, assisted by the Technical Coordinator and audit team members will complete the audit report following the audit closeout meeting. The audit report format will be as shown in Appendix B.

3.3.3 Audit Report Review and Approval

The audit report will be provided to the T&MSS ECPD Manager for review and approval. On completion of the ECPD Manager's review/approval process, the audit report will be forwarded to the POCD Director for final review and approval.

3.3.4 Corrective Action Plan

The POCD Director will transmit the approved audit report to the DRI Technical Project Officer (TPO) and formally request the development of a corrective action plan to address the audit findings. The TPO or designee will direct the preparation of the corrective action plan by DRI personnel. When complete, the TPO will submit the plan to the POCD Director for approval. The TPO will be responsible for ensuring implementation of the approved corrective action plan and for tracking DRI adherence to the plan and any other activities undertaken to address the audit findings.

3.3.5 Corrective Action Verification and Audit Close

Verification of the completion of corrective actions will be documented by the Audit Team Leader and a written report closing the audit will be submitted by the Team Leader to the POCD Director.

4.0 RECORDS

There are no quality assurance records generated as a result of this audit. Copies of the audit report, correspondence, logbooks, and all other documents generated by pre-audit, audit, and post-audit activities will be kept to document this audit and will comprise the audit administrative record file. This administrative record file will be submitted to the Las Vegas Local Records Center by the ECPD to be forwarded to the Central Records Facility.¹

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APPENDIX B
CHECKLISTS FOR THE
ENVIRONMENTAL MANAGEMENT AUDIT
OF
THE DESERT RESEARCH INSTITUTE (DRI)
AT THE
YUCCA MOUNTAIN SITE
CHARACTERIZATION PROJECT
JUNE 1993

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ENVIRONMENTAL MANAGEMENT AUDIT CHECKLIST

Performance Objectives and Criteria For Environmental Management

Formality of Environmental Programs: Environmental protection activities should be conducted in accordance with formal programs supported by controlled documentation.

1. Are environmental protection programs defined in formal policies, standards, and procedures?

YES ____ NO ____ N/A ____

REMARKS:

2. Is there a formal system to translate YMP procedures into DRI internal policies, standards, and procedures?

YES ____ NO ____ N/A ____

REMARKS:

3. Is there a system in place to verify that procedures for any DRI activities that might impact the environment contain environmental protection sections?

YES ____ NO ____ N/A ____

REMARKS:

ENVIRONMENTAL MANAGEMENT AUDIT CHECKLIST

4. Is there a review system in place to ensure that procedures address all activities necessary to implement environmental policies, that the procedures are technically correct and current, and that the procedures have a level of detail appropriate to DRI YMP activities?

YES____ NO____ N/A____

REMARKS:

5. Are DRI's policies and procedures part of a formal document control system?

YES____ NO____ N/A____

REMARKS:

6. Are DRI's environmental procedures and standards issued from an organizational level with the authority to mandate implementation?

YES____ NO____ N/A____

REMARKS:

7. Does DRI's document control system ensure that personnel have access to the current versions of environmental procedures and requirements?

YES____ NO____ N/A____

REMARKS:

ENVIRONMENTAL MANAGEMENT AUDIT CHECKLIST

Organizational Structure: The organizational structure should be established in such a manner that the functions, responsibilities, and authorities for environmental protection programs are clearly defined. Both oversight roles and line management responsibilities should be accommodated.

8. Are organizational responsibility, authority, and accountability for environmental protection programs defined in formal documents such as organizational charts, policy manuals, quality assurance manuals, mission statements, and unit charters?

YES _____ NO _____ N/A _____

REMARKS:

9. Are responsibility, authority, and accountability for the implementation of environmental protection programs assigned to all of the line-organization units?

YES _____ NO _____ N/A _____

REMARKS:

10. Has an environmental coordinator or support group been established with responsibility for defining DRI YMP activity-wide standards, oversight, and technical support for line organizations?

YES _____ NO _____ N/A _____

REMARKS:

ENVIRONMENTAL MANAGEMENT AUDIT CHECKLIST

11. Are functional relationships between the environmental coordinator or support group and the line units formally defined and understood?

YES___ NO___ N/A___

REMARKS:

12. Does the environmental coordinator or support group charged with responsibility for environmental oversight and the development of internal standards have sufficient independence and management support to implement their responsibilities?

YES___ NO___ N/A___

REMARKS:

13. Is authority to make decisions related to environmental protection, including stop-work authority, assigned to the organizational levels that can provide the most timely response to mitigate potentially adverse impacts?

YES___ NO___ N/A___

REMARKS:

14. Is there a formal mechanism for reporting environmental concerns and unresolved issues to higher levels of management?

YES___ NO___ N/A___

REMARKS:

ENVIRONMENTAL MANAGEMENT AUDIT CHECKLIST

15. Do the line and support organizational units understand and accept their respective roles and do they work in a cooperative relationship?

YES____ NO____ N/A____

REMARKS:

16. Is the effectiveness of the environmental organizational structure periodically subjected to a formal review and are revisions made when warranted?

YES____ NO____ N/A____

REMARKS:

ENVIRONMENTAL MANAGEMENT AUDIT CHECKLIST

Culture and Attitude: The organization should exhibit a positive attitude and a culture committed to environmental excellence.

17. Does DRI have a formal statement of policy that places priority for environment, safety, and health above mission?

YES____ NO____ N/A____

REMARKS:

18. Have managers at all levels formally stated their commitment to environmental excellence?

YES____ NO____ N/A____

REMARKS:

19. During interviews, have both management and staff demonstrated an understanding and acceptance of the importance of environmental protection?

YES____ NO____ N/A____

REMARKS:

20. Do individuals demonstrate a recognition of the environmental aspects of their job responsibilities?

YES____ NO____ N/A____

REMARKS:

ENVIRONMENTAL MANAGEMENT AUDIT CHECKLIST

21. Do individuals demonstrate a sense of "ownership" of environmental protection?

YES____ NO____ N/A____

REMARKS:

22. Are managers at all levels personally involved with and participate directly in environmental protection activities (e.g., audits and self-assessments, write and review procedures, serve on ES&H advisory committees)?

YES____ NO____ N/A____

REMARKS:

23. Is environmental protection an integral part of the budget and planning process?

YES____ NO____ N/A____

REMARKS:

24. Is there a positive, open, and cooperative relationship between line and oversight groups?

YES____ NO____ N/A____

REMARKS:

ENVIRONMENTAL MANAGEMENT AUDIT CHECKLIST

25. Does management encourage and readily accept input on environmental issues from all employees?

YES____ NO____ N/A____

REMARKS:

26. Are management and staff fully cooperative and open with internal and external oversight groups?

YES____ NO____ N/A____

REMARKS:

27. Is environmental compliance considered the minimum acceptable standard?

YES____ NO____ N/A____

REMARKS:

ENVIRONMENTAL MANAGEMENT AUDIT CHECKLIST

Occurrence Reporting and Processing of Operations Information
Administrative Procedure (AP)-2.9

Facility Occurrence Procedure Implementation

1. Has the DRI Technical Project Officer (TPO) or Yucca Mountain Site Characterization Project (YMP) Site Manager (SM) identified facilities or groups of facilities for occurrence reporting procedure implementation?

YES _____ NO _____ N/A _____

Remarks:

2. Has a facility manager (FM) for each identified facility or group been designated by the TPO/SM?

YES _____ NO _____ N/A _____

REMARKS:

3. Has the YMP Project Manager (PM) been notified of these designations?

YES _____ NO _____ N/A _____

REMARKS:

4. Has the YMP PM designated a Department of Energy (DOE) Facility Representative (FR) for each facility or group?

YES _____ NO _____ N/A _____

REMARKS:

AP-2.9 AUDIT CHECKLIST (page 2 continued)

5. Has the YMP PM notified the DOE/Nevada Operations Office (NV) Emergency Preparedness Branch of the FM and DOE FR designations?

YES _____ NO _____ N/A _____

REMARKS:

6. Have any unique and specific requirements that apply to the facilities been defined by the FM?

YES _____ NO _____ N/A _____

REMARKS:

7. Has the FM prepared an internal occurrence reporting procedure for the facility to implement compliance with AP-2.9?

YES _____ NO _____ N/A _____

REMARKS:

8. Has the FM forwarded the procedure to the SM/FR for review and acceptance?

YES _____ NO _____ N/A _____

REMARKS:

9. Have the SM/FR reviewed and accepted the internal occurrence reporting procedures?

YES _____ NO _____ N/A _____

AP-2.9 AUDIT CHECKLIST (page 3 continued)

REMARKS:

10. Have all personnel who use the facility been trained by the FM on the proper implementation of the internal occurrence reporting procedure?

YES _____ NO _____ N/A _____

REMARKS:

11. Has the FM implemented the internal occurrence reporting procedure?

YES _____ NO _____ N/A _____

REMARKS:

12. Has the FM distributed copies of the internal occurrence reporting procedures to the DOE/NV Emergency Preparedness Branch, the YMP PM, and the DOE FR?

YES _____ NO _____ N/A _____

REMARKS:

Reportable Occurrence Handling

(Note: Each reportable occurrence should be evaluated against the following checklist items)

13. Were all reportable occurrences that involved DRI reported to the Field Operation Center (FOC) regardless of geographic location?

YES _____ NO _____ N/A _____

AP-2.9 AUDIT CHECKLIST (page 4 continued)

REMARKS:

14. For occurrences that adversely affected the environment, did the YMP PM/SM notify the Project Operations and Control Division (POCD) Director?

YES _____ NO _____ N/A _____

REMARKS:

15. Were reportable occurrences detected by DRI personnel reported to the FM and the appropriate DOE FR?

YES _____ NO _____ N/A _____

REMARKS:

16. When a reportable occurrence was detected, did DRI personnel take mitigation measures dictated by the circumstances?

YES _____ NO _____ N/A _____

REMARKS:

17. Was the initial occurrence reported to the FOC/FR?

YES _____ NO _____ N/A _____

AP-2.9 AUDIT CHECKLIST (page 5 continued)

REMARKS:

18. Were significant changes, if any, reported to the FOC/FR?

YES _____ NO _____ N/A _____

REMARKS:

19. Did the DRI FM perform preliminary occurrence categorization in accordance with DOE Order 5000.3A?

YES _____ NO _____ N/A _____

REMARKS:

20. If the occurrence involved environmental subjects, did the FM contact the POCD for assistance in categorization?

YES _____ NO _____ N/A _____

REMARKS:

21. Were emergency occurrences categorized within two hours of occurrence?

YES _____ NO _____ N/A _____

REMARKS:

22. If categorized as an emergency, did the FM complete the notification process within fifteen minutes of categorization as required by DOE Order 5000.3A?

AP-2.9 AUDIT CHECKLIST (page 6 continued)

YES _____ NO _____ N/A _____

REMARKS:

23. If categorized as an unusual occurrence, did the FM complete the notification process within two hours of categorization as required by DOE Order 5000.3A?

YES _____ NO _____ N/A _____

REMARKS:

24. If categorized as an off-normal occurrence, did the FM complete the notification process in writing within 24 hours of categorization as required by DOE Order 5000.3A?

YES _____ NO _____ N/A _____

REMARKS:

25. If applicable, did the FM make a verbal follow-up notification for each of the following conditions:

- a. Any further degradation in the level of safety, or worsening conditions, including those that required declaring an emergency action level.
- b. Any change from one categorization level to another.
- c. Termination of an emergency.

YES _____ NO _____ N/A _____

REMARKS:

26. Did the FM, with the assistance of the FOC and/or the FR, establish a communication link with the SM, YMP PM, or POCD Director (as applicable)?

AP-2.9 AUDIT CHECKLIST (page 7 continued)

YES _____ NO _____ N/A _____

REMARKS:

27. After establishment of a communication link, did the FM discuss the occurrence categories and confirm the reporting requirements?

YES _____ NO _____ N/A _____

REMARKS:

28. Did the FM (with FOC and/or FR assistance) officially notify the Office of Civilian Radioactive Waste Management (OCRWM)?

YES _____ NO _____ N/A _____

REMARKS:

29. Did the SM notify the DOE/NV Nevada Occurrence Reporting System Operations Center (NORSOC)?

YES _____ NO _____ N/A _____

REMARKS:

30. Did the FM, in accordance with applicable procedures and DOE Order 5000.3A, proceed with written occurrence reporting to include:

- a. Corrective action plans
- b. Follow-up responses
- c. Data base entry
- d. Closure

AP-2.9 AUDIT CHECKLIST (page 8 continued)

YES _____ NO _____ N/A _____

REMARKS:

31. Did the TPO and/or FM record and archive all information pertaining to each occurrence?

YES _____ NO _____ N/A _____

REMARKS:

AP-2.9 AUDIT CHECKLIST (page 9 continued)

Reference Documents

AP-2.9, Occurrence Reporting and Processing of Operations Information

DOE Order 5484.1, Environmental Protection, Safety, and Health Protection Information Reporting Requirements

DOE Order 5000.3A, Occurrence Reporting and Processing of Operations Information

YMP Safety and Health Plan, YMP/90-37, Rev. 1.

Project Glossary, YMP/89-15

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ENVIRONMENTAL MANAGEMENT AUDIT CHECKLIST

Environmental Safety and Health Protection Program
for U.S. Department of Energy Operations
Administrative Procedure (AP)-5.43

1. Had DRI developed and implemented environmental programs, plans, and procedures in accordance with YMP Safety and Health Plan, YMP/90-37, and/or Environmental Management Plan, YMP/93-04?

YES _____ NO _____ N/A _____

REMARKS:

2. Had the plans been submitted to the Project Manager?

YES _____ NO _____ N/A _____

REMARKS:

3. Had DRI conducted internal environmental appraisals?

YES _____ NO _____ N/A _____

REMARKS:

4. Was a copy of the environmental appraisal(s) sent to the Project and Operations Control Division (POCD) Director?

YES _____ NO _____ N/A _____

REMARKS:

AP-5.43 AUDIT CHECKLIST (page 2 continued)

References

AP-5.7, Safety and Health Compliance Inspection

AP-5.38, Safety and Health Appraisal

AP-5.43, Environmental Safety and Health Protection Program for U.S.
Department of Energy Operations

AP-5.46, Environmental Compliance Auditing and Surveillance of
Yucca Mountain Site Characterization Project Activities

ENVIRONMENTAL MANAGEMENT AUDIT CHECKLIST

Resolutions of Environment, Safety and Health Concerns
Administrative Procedure (AP)-6.18

Initial Actions

1. If DRI personnel found questionable activities or conditions on-site at the Yucca Mountain Site Characterization Project (YMP) were they reported to the Field Operation Center (FOC)?

YES _____ NO _____ N/A _____

REMARKS:

2. If found at the Bank of America Center (BAC) complex (formally the Valley Bank Center), were questionable actions or conditions reported to the Yucca Mountain Site Characterization Project Office (YMPO) Safety and Health (S&H) Staff?

YES _____ NO _____ N/A _____

REMARKS:

3. Did the FOC, S&H Staff, or the Project Operations and Control Division (POCD) Operations Control Branch Chief (OCB), as applicable, notify the appropriate party to take action? (Note: Appropriate party is defined as one with authority to request Site Manager [SM] intervention and/or to stop questionable activities)

YES _____ NO _____ N/A _____

REMARKS:

4. Did the appropriate party make a determination that the questionable activity or condition represented imminent danger?

YES _____ NO _____ N/A _____ (If yes, go to #5; if no, go to #18)

AP-6.18 AUDIT CHECKLIST (page 2 continued)

REMARKS:

5. Did the FOC, the S&H Staff, or OCB contact the responsible Facility Manager (FM) or DRI Technical Project Officer (TPO) and order immediate action, as appropriate, to protect lives, property, natural barriers, and the environment?

YES _____ NO _____ N/A _____

REMARKS:

6. Did the responsible FM/TPO take immediate action to protect lives and property, as ordered?

YES _____ NO _____ N/A _____

REMARKS:

7. Did the FM/TPO evaluate the activity/condition and determine the actions needed and the time required to abate the concern?

YES _____ NO _____ N/A _____

REMARKS:

8. Did the FM/TPO verbally report the actions taken to the appropriate party, FOC or S&H Staff, and the cognizant YMPO Division Director (DD) or Branch Chief?

YES _____ NO _____ N/A _____

AP-6.18 AUDIT CHECKLIST (page 3 continued)

REMARKS:

9. Where normal operations were delayed for more than two hours, did the FM/TPO comply with the occurrence reporting requirements of AP-2.9, Occurrence Reporting and Processing of Operations Information?

YES _____ NO _____ N/A _____

REMARKS:

10. Was equipment operation or access to the hazardous area restricted by the FM/TPO using the appropriate DRI procedure or YMPO Field Operating Instruction (FOI) for posting warning signs or setting up barricades?

YES _____ NO _____ N/A _____

REMARKS:

11. Were the SM, cognizant YMPO Branch Chief, and other appropriate parties notified by the FM/TPO of restricted activity?

YES _____ NO _____ N/A _____

REMARKS:

12. When necessary, did the FM/TPO implement other appropriate actions?

YES _____ NO _____ N/A _____

REMARKS:

AP-6.18 AUDIT CHECKLIST (page 4 continued)

13. Was the appropriate party, FOC, or S&H Staff notified by the FM/TPO of actions taken to respond to the concern?

YES _____ NO _____ N/A _____

REMARKS:

14. Were notifications made and actions taken by the FM/TPO documented on a Resolution of ES&H Concerns Form?

YES _____ NO _____ N/A _____

REMARKS:

15. Were copies of the Resolution of ES&H Concerns form forwarded to the appropriate party, FOC, or ES&H Staff?

YES _____ NO _____ N/A _____

REMARKS:

16. In accordance with U.S. Department of Energy (DOE) Order 5483.1A, did an appropriate party inspect the work location(s) and verify the investigation adequacy?

YES _____ NO _____ N/A _____

REMARKS:

17. Did the appropriate party notify the initiator (the person who discovered the questionable activity/condition) of the response(s) to the concern and complete appropriate documentation?

AP-6.18 AUDIT CHECKLIST (page 5 continued)

YES _____ NO _____ N/A _____

REMARKS:

(Note: Checklist items beginning with #18 should be used when the risk described by the initiator was evaluated by an appropriate party to be less severe than imminent danger, but one that did represent an environment, safety and health concern.)

18. Was the questionable activity investigated by an appropriate party within two working days to evaluate the initiator's concern?

YES _____ NO _____ N/A _____

REMARKS:

19. Did the appropriate party evaluate the questionable activity/condition as a significant risk?

YES _____ NO _____ N/A _____ (If yes, go to #21; if no, go to #20)

REMARKS:

20. Did the appropriate party notify the initiator verbally and in writing of the following:

- a. The concern had been investigated.
- b. No action was deemed necessary.
- c. The reason for the determination.
- d. The initiator's right to request a higher authority decision review.

YES _____ NO _____ N/A _____ (If yes, go to #33)

REMARKS:

AP-6.18 AUDIT CHECKLIST (page 6 continued)

21. Did the appropriate party verbally contact the FM/TPO and request an evaluation of the initiator's concern?

YES _____ NO _____ N/A _____

REMARKS:

22. Did the responsible FM/TPO implement the actions addressed in checklist items 7 through 14?

YES _____ NO _____ N/A _____

REMARKS:

23. Did the appropriate party accomplish the actions described in checklist items 16 and 17?

YES _____ NO _____ N/A _____

REMARKS:

Problem Resolution

24. Was a corrective action plan developed by the responsible FM and submitted to the appropriate party (copy to SM if the questionable activity was on-site at the YMP)?

YES _____ NO _____ N/A _____

REMARKS:

25. Was the corrective action plan determined by the appropriate party/SM to be adequate to eliminate the risk(s)?

YES _____ NO _____ N/A _____ (If yes, go to #29; if no, go to #26)

AP-6.18 AUDIT CHECKLIST (page 7 continued)

REMARKS:

26. Did the responsible FM agree that the corrective action plan was inadequate?

YES _____ NO _____ N/A _____ (If yes, go to #30; if no, go to #27)

REMARKS:

27. Did the responsible FM escalate the decision to the responsible Division Director (DD) and inform the appropriate party/SM?

YES _____ NO _____ N/A _____

REMARKS:

28. Did the DD determine the corrective action plan to be adequate?

YES _____ NO _____ N/A _____ (If yes, go to #29; if no, go to #30)

REMARKS:

29. Was the corrective action plan implemented by the responsible FM?

YES _____ NO _____ N/A _____

REMARKS:

AP-6.18 AUDIT CHECKLIST (page 8 continued)

30. Were plan inadequacies corrected by the responsible FM and was the plan resubmitted to the appropriate party/SM?

YES _____ NO _____ N/A _____ (If yes, go to #25)

REMARKS:

31. Did the appropriate party verify that the corrective actions were effective and that long term actions to prevent similar occurrences had been initiated?

YES _____ NO _____ N/A _____ (If yes, go to #32; if no, go to #30)

REMARKS:

32. Did the appropriate party recommend to the responsible DD that normal activity resume?

YES _____ NO _____ N/A _____

REMARKS:

33. Did the DD concur with the recommendation on the resolutions of concern form, sign it, and transmit it to the SM?

YES _____ NO _____ N/A _____

REMARKS:

34. Did the SM approve resumption of normal activities by signing the resolutions of concerns form?

YES _____ NO _____ N/A _____

AP-6.18 AUDIT CHECKLIST (page 9 continued)

REMARKS:

35. Did the responsible FM resume normal activities as documented by his signature in the appropriate block on the resolutions of concern form?

YES _____ NO _____ N/A _____

REMARKS:

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ENVIRONMENTAL MANAGEMENT AUDIT CHECKLIST

The Desert Research Institute (DRI)
Environmental Training Program

1. Were environmental training programs for environmental staff and other employees defined in documents such as policies and procedures?

YES _____ NO _____ N/A _____

REMARKS:

2. Did environmental training programs have clearly defined requirements for the preparation of training materials?

YES _____ NO _____ N/A _____

REMARKS:

3. Were requirements clearly established for documentation of environmental training program content?

YES _____ NO _____ N/A _____

REMARKS:

4. Was a process in place to evaluate and establish environmental training needs for all personnel?

YES _____ NO _____ N/A _____

REMARKS:

5. Are new employees given initial training in the environmental aspects of their specific areas of responsibility?

ENVIRONMENTAL TRAINING AUDIT CHECKLIST (page 2 continued)

YES _____ NO _____ N/A _____

REMARKS:

6. Were training needs incorporated in professional development plans for environmental protection personnel?

YES _____ NO _____ N/A _____

REMARKS:

7. Was there a formal process to ensure that environmental training courses were developed at an appropriate depth and provided adequate coverage of Federal and State regulations and DOE and YMPO orders, regulations, procedures, and principles of environmental protection?

YES _____ NO _____ N/A _____

REMARKS:

8. Was there a formal documented process for the periodic evaluation of the effectiveness of environmental training programs?

YES _____ NO _____ N/A _____

REMARKS:

9. Had environmental training requirements for temporary employees, visitors, and subcontractors been established?

YES _____ NO _____ N/A _____

ENVIRONMENTAL TRAINING AUDIT CHECKLIST (page 3 continued) C1,
2/4/93

REMARKS:

10. Were DRI personnel aware of the resources available to them regarding environmental regulations compliance?

YES _____ NO _____ N/A _____

REMARKS:

11. Did personnel know who to contact with questions about environmental compliance?

YES _____ NO _____ N/A _____

REMARKS:

12. Did personnel know who to contact in case of a contaminant/hazardous waste release?

YES _____ NO _____ N/A _____

REMARKS:

13. Were personnel aware of the appropriate reporting requirements for a hazardous waste release?

YES _____ NO _____ N/A _____

REMARKS:

14. Were records generated and maintained for the training received by each individual?

ENVIRONMENTAL TRAINING AUDIT CHECKLIST (page 4 continued) C1,
2/4/93

YES _____ NO _____ N/A _____

REMARKS:

15. Was the system for keeping training records auditable and did it have provisions to ensure completeness and accuracy of the training records?

YES _____ NO _____ N/A _____

REMARKS:

APPENDIX B

**ADMINISTRATIVE PROCEDURES
TRAINING PLAN
FIELD OPERATIONS INSTRUCTIONS**

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APPENDIX B1

AP-2.9

OCCURRENCE REPORTING AND
PROCESSING OF OPERATIONS
INFORMATION

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YMP-054-R0 YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE
7/12/91
DOCUMENT APPROVAL SHEET

Title: OCCURRENCE REPORTING AND PROCESSING OF OPERATIONS INFORMATION
 NO. AP-2.9
 [] IO
 [X] Non O

APPROVAL

PROJECT MANAGER: Carl P. Gertz 12/14/90
 Signature Date
 DIRECTOR OF QUALITY ASSURANCE: N. Voltura for D. G. Horton 12/12/90
 Signature Date
 N/A N/A N/A
 (OTHER, AS REQUIRED) Signature Date

REVISION 0 EFFECTIVE DATE: 12/26/90

REVISIONS

INITIAL AND DATE

	REVISION 1	REVISION 2	REVISION 3	REVISION 4
PROJECT MANAGER:	<u>[Signature]</u> <u>7/12/92</u>			
DIRECTOR, QA:	<u>N/A</u>			
Site Manager	<u>Winifred G. Wilson</u>			
(OTHER, AS REQUIRED)	<u>7/17/92</u>			
EFFECTIVE DATE:	<u>7/27/92</u>			

Complete
 Revision

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TRAINING REQUIRED ☒ YES ☐ N/A NUMBER OF DAYS REQUIRED FOR TRAINING 10

COMMENTS: Self-training for personnel required to maintain training on procedure.

Discussed with T. McCauley 7/12/92.
7:30
7/13/92

[Signature] 7/13/92
 TRAINING OFFICER/TRAINING MANAGER DATE

OMP-06-04

YMP-053-R0
7/12/91

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1.0 PURPOSE AND SCOPE

1.1 PURPOSE

This procedure assigns responsibility and provides a process for reporting occurrences and events related to all Yucca Mountain Site Characterization Project (YMP) Participants, and for processing such information to provide appropriate and timely corrective actions, in accordance with the latest revision of U.S. Department of Energy (DOE) YMP Safety and Health Plan (YMP/90-37).

1.2 SCOPE

This procedure defines a system to (1) identify any and all reportable conditions and events, (2) provide for the assignment of Facility Managers (FMs) and Facility Representatives (FRs), (3) provide notice to appropriate management personnel, (4) set out a structure for decisions and actions relative to the unusual occurrence, and (5) provides for a record of unusual occurrence and all such actions.

2.0 APPLICABILITY

This procedure applies to all YMP offices, personnel, YMP participants, and any subcontractor or supporting personnel and facilities. YMP participants with work locations remote from Nevada (e.g., Lawrence Livermore National Laboratory, Sandia National Laboratories, Los Alamos National Laboratory, etc.) who are governed by other DOE-compliant occurrence reporting systems, will utilize their reporting systems, internal procedures, and instructions to report related YMP incidents through their channels upward. However, for the YMP, the Field Operations Center (FOC) is to be informed or notified of all occurrences.

3.0 DEFINITIONS

Terms in this procedure are used as defined in the YMP Safety and Health Plan, DOE Order 5000.3A, and Project Glossary. The following definitions are adopted for the purposes of this procedure.

3.1 EVENT

An event is a real-time occurrence (e.g., death, or serious injury, environmental damage, pipe break, valve failure, loss of power, or loss of DOE-owned equipment).

3.2 CONDITION

A condition is an occurrence which may have adverse safety, health, security, operational, or environmental implications. A condition is more

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programmatic in nature than an event (e.g., an error in engineering analysis or calculation, an anomaly associated with design or performance, or an item indicating a weakness in the management process).

3.3 FACILITY

A facility is any equipment, structure, system, process, or activity that fulfills a specific purpose. Examples include the data consolidation and retrieval system, the sample management facility, and the integrated data system.

3.4 FACILITY REPRESENTATIVE

For each major facility or group of lesser facilities, the Facility Representative (FR) is that DOE individual assigned responsibility by the YMP Project Manager for monitoring the performance and operations of the facility. This individual shall be the primary point of contact with the contractor and will be responsible to the appropriate Program Senior Official and YMP Project Manager for implementing the requirements of this procedure. The FR may delegate these responsibilities to a designee.

3.5 FACILITY MANAGER

A Facility Manager (FM) is that individual, or designee, who has direct line responsibility for operation of a facility or group of related facilities, and who has authority to direct physical changes to the facility. An FM is usually, but not always, a contractor employee.

3.6 OCCURRENCE REPORT

An occurrence report is a written evaluation of an event or a condition. The report is prepared in sufficient detail to enable the reader to

- (1) assess the occurrence's significance, consequences, or implications; and
- (2) evaluate the actions being proposed or employed to correct the condition or avoid recurrence.

3.7 REPORTABLE OCCURRENCE

A reportable occurrence is an event or condition to be reported in accordance with the criteria defined in DOE Order 5000.3A.

3.8 EMERGENCY

An emergency is the most serious occurrence and requires an increased alert status for onsite personnel and, in specified cases, for offsite authorities. The types of occurrences that are to be categorized as emergencies are defined in DOE Order 5000.3A.

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3.9 UNUSUAL OCCURRENCE

An unusual occurrence is a nonemergency occurrence that has significant impact or potential for impact on safety, environment, health, security, or operations.

3.10 OFF-NORMAL OCCURRENCE

An off-normal occurrence is an abnormal or unplanned event or condition that adversely affects, potentially affects, or is indicative of degradation in the safety, security, environmental, or health protection performance or operation of a facility.

3.11 NEVADA OCCURRENCE REPORTING SYSTEM OPERATIONS CENTER

Nevada Occurrence Reporting System Operations Center (NORSOC) is the manned operations center to which all DOE/NV occurrences are initially reported, and through which subsequent reporting requirements are facilitated.

4.0 RESPONSIBLE PARTIES

The following YMP individuals or organizations are responsible for activities identified in Section 5.0 of this procedure.

1. YMP Project Manager
2. Technical Project Officer (TPO)
3. DOE FR
4. FM
5. Yucca Mountain Site Manager (SM) - Nevada Test Site, Area 25
6. Yucca Mountain Site Office FOC
7. Yucca Mountain Project Office
8. Project Operations and Control Division (POCD) Director

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OCCURRENCE REPORTING AND PROCESSING OF OPERATIONS
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5.0 PROCEDURE

A flowchart of the following processes described in this procedure is attached as Figure 1.

RESPONSIBLE PARTY	STEPS	PROCEDURE
-------------------	-------	-----------

INTERNAL OCCURRENCE PROCEDURE IMPLEMENTATION

- | | | |
|---------------------|----|---|
| TPU/SM | 1. | Identify facilities or groups of facilities. Designate an FM for each facility or group identified. Notify the YMP Project Manager of these designations. |
| YMP Project Manager | 2. | Designate an FR for each facility or group identified in Step 1. |
| | 3. | Notify the DOE/Nevada Operations Office (NV) Emergency Preparedness Branch of these designations for the listing of FMs and DOE FRs. |
| FM | 4. | Define any unique and specific requirements that apply to the facilities. |
| | 5. | Prepare an internal occurrence reporting procedure for the facility to implement compliance with this administrative procedure. Forward the procedures to the SM/FR for review and acceptance. |
| SM/FR | 6. | Review and accept the internal occurrence reporting procedures. |
| FM | 7. | Train all personnel who utilize the facility on the proper implementation of the internal occurrence reporting procedure. |
| | 8. | Implement the internal occurrence reporting procedures. |
| | 9. | Distribute copies of the internal occurrence reporting procedures to the DOE/NV Emergency Preparedness Branch, YMP Project Manager, and FR. Forward procedures for a non-Participant (i.e., DOE) facility to the Document Control Center for distribution in accordance |

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RESPONSIBLE PARTY

STEPS

PROCEDURE

FM

with Administrative Procedure (AP)
AP-1.5Q, Issuance and Maintenance of
Controlled Documents.

REPORTABLE OCCURRENCE HANDLING

- | | | |
|------------------------|-----|--|
| YMP Project Manager/SM | 10. | Report any occurrence involving YMP Participants to the FOC regardless of geographic location. |
| All YMP Personnel | 11. | Notify the PCOD Director if the occurrence adversely affects the environment. |
| | 12. | Take mitigation measures dictated by the circumstances when any participant individual detects a reportable occurrence and reports it to the FM and appropriate FR. |
| | 13. | Verbally report the initial occurrence and any significant changes to the FOC/FR. |
| FM | 14. | Perform preliminary categorization in accordance with DOE Order 5000.3A. Contact PCOD for assistance in categorization if occurrence involves environmental subjects. |
| | 15. | Complete the process of notification within the following time frames, as required by DOE Order 5000.3A. If the occurrence is:
<ul style="list-style-type: none">a. An emergency, notify within fifteen minutes of categorization. Categorize within two hours of the occurrence. |
- NOTE: The YMP Project Manager can declare an emergency occurrence at YMP.
- b. An unusual occurrence, notify within two hours of categorization.

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RESPONSIBLE PARTY

STEPS

PROCEDURE

FM

c. An off-normal occurrence, notify in writing within 24 hours of categorization.

16. Make a follow-up verbal notification for each of the following conditions:

a. Any further degradation in the level of safety, or worsening conditions, including those that require declaring an emergency action level.

b. Any change from one categorization level to another.

c. Termination of an emergency.

FM with the assistance
of FOC and/or FR

17. Establish a communication link (verbal, if possible) with the SM or YMP Project Manager, POCD Director (as applicable).

NOTE: The FOC will notify the SM.

18. Discuss the occurrence categories and confirm the Reporting requirements.

19. Officially notify Office of Civilian Radioactive Waste Management.

SM

20. Notify the DOE/NV NORSOC.

FM

21. Proceed with written occurrence reporting, including corrective action, action plans, follow-up responses, data base entry, and closure in accordance with applicable procedures and DOE Order 5000.3A.

TPO and/or FM

22. Record and archive all information pertaining to such occurrences.

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6.0 REFERENCES

Refer to the latest revision of the documents listed below unless otherwise stated.

6.1 REFERENCE DOCUMENTS

DOE Order 5000.3A, Occurrence Reporting and Processing of Operation Information

DOE Order 5484.1, Environmental Protection, Safety, and Health Protection Information Reporting Requirements

NV Order 5000.3A, Occurrence Reporting and Processing of Operations Information

YMP Safety and Health Plan, YMP/90-37, Rev. 1

6.2 INTERFACE DOCUMENTS

Project Glossary, YMP/89-15

AP-1.5Q, Issuance and Maintenance of Controlled Documents

7.0 FIGURES AND ATTACHMENTS

Figure 1, AP-2.9 Flowchart

8.0 RECORDS

Records are retained in the MORSOC system.

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7/12/91 PROCEDURE

Procedure No.: AP-2.9
OCCURRENCE REPORTING AND PROCESSING OF OPERATIONS
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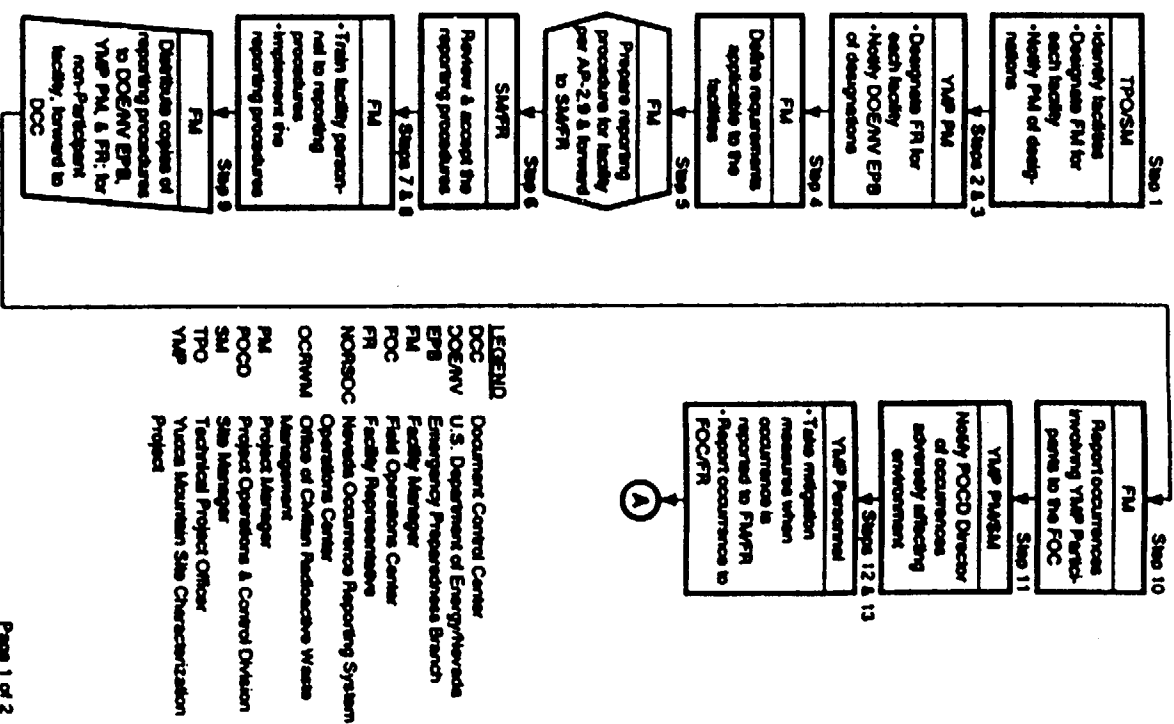


Figure 1 - AP-2.9 Flowchart

YMP-053-R0
7/12/91

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

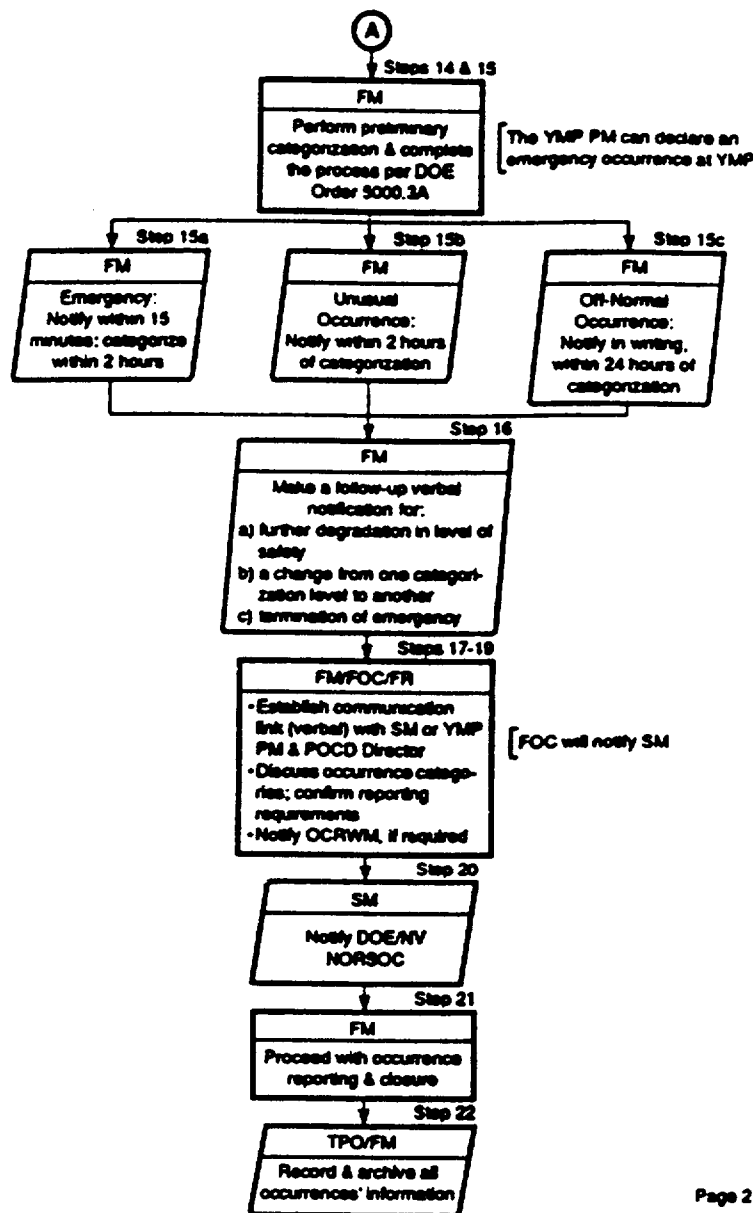
Procedure No.: AP-2.9

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Figure 1 - AP-2.9 Flowchart (continued)

APPENDIX B2

AP-5.43

ENVIRONMENTAL SAFETY AND HEALTH
PROTECTION PROGRAM FOR U.S.
DEPARTMENT OF ENERGY OPERATIONS

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YMP-054-R0 YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE
7/12/91 DOCUMENT APPROVAL SHEET

Title

ENVIRONMENTAL SAFETY AND HEALTH PROTECTION PROGRAM FOR
U.S. DEPARTMENT OF ENERGY OPERATIONS

NO. AP-5.43

[] Q

[X] Non Q

APPROVAL

N/A

N/A

PROJECT MANAGER:

Signature

Date

N/A

N/A

DIRECTOR OF QUALITY ASSURANCE:

Signature

Date

S & H Compliance Manager :

FOC Manager

(OTHER, AS REQUIRED)

Signature

Date

REVISION 0 EFFECTIVE DATE: 9/22/92

REVISIONS

INITIAL AND DATE

REVISION 1

REVISION 2

REVISION 3

REVISION 4

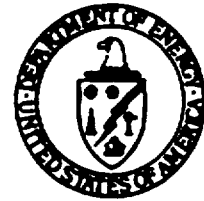
PROJECT MANAGER:

DIRECTOR, QA:

(OTHER, AS REQUIRED)

EFFECTIVE DATE:

INFORMATION COPY



YMP-053-R0
7/12/91

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

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ENVIRONMENTAL SAFETY AND HEALTH PROTECTION
PROGRAM FOR U.S. DEPARTMENT OF ENERGY OPERATIONS

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1.0 PURPOSE AND SCOPE

1.1 PURPOSE

The purpose of this procedure is to develop steps to ensure the coordination of the environment, safety and health efforts at the Yucca Mountain Site Characterization Project (YMP) work sites and to maintain the safety and well being of YMP employees and the general public, consistent with the guidance provided in the YMP Safety and Health Plan, (YMP/90-37) and the Environmental Management Plan (YMP/CC-0006).

1.2 SCOPE

The scope of this procedure is designed to ensure that YMP participants develop and implement environment, safety and health programs.

2.0 APPLICABILITY

This procedure applies to all YMP participant organizations and their employees.

3.0 DEFINITIONS

Terms in this procedure are used as defined in the Project Glossary, YMP/89-15. The following additional definitions are adopted for purposes of this procedure.

3.1 SAFETY AND HEALTH PROTECTION PROGRAM FOR U.S. DEPARTMENT OF ENERGY OPERATIONS

The Safety and Health Protection Program for U.S. Department of Energy (DOE) Operations is an organized set of activities performed as independent functions. Its purpose is to ensure that all aspects of safety and health-related activities at the program, project and contractor level are addressed. It encompasses those requirements, activities, and functions in the conduct of all operations that are concerned with:

- a. limiting the risk to the well being of both operating personnel and the general public, and
- b. protecting property against accidental loss and damage.

3.2 SAFETY AND HEALTH IMPLEMENTATION PLAN

The Safety and Health Implementation Plan is a concise description of the approach, resources, and time period planned for implementing DOE Orders that include a description of the execution of safety and health protection, safety and health responsibilities and authorities.

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7/12/91

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

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ENVIRONMENTAL SAFETY AND HEALTH PROTECTION
PROGRAM FOR U.S. DEPARTMENT OF ENERGY OPERATIONS

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3.2 ENVIRONMENTAL PROGRAM

The Environmental Program is an organized set of activities to ensure that facilities are operated and managed in a manner that will protect, maintain, and restore environmental quality, minimize potential threats to the environment, and comply with environmental regulations and DOE policies.

4.0 RESPONSIBLE PARTIES

The following YMP individuals or organizations are responsible for activities identified in Section 5.0 of this procedure.

1. Project Manager (PM)
2. YMP participants
3. U.S. Department of Energy (DOE) Safety and Health (S&H) Staff
4. Director, Project and Operations Control Division (POCD)
5. Technical and Management Support Services (T&MSS) Environmental Compliance and Permitting Department (ECPD)

5.0 PROCEDURE

A flowchart of the following processes described in this procedure is attached as Figure 1.

<u>RESPONSIBLE PARTY</u>	<u>STEPS</u>	<u>PROCEDURE</u>
PM	1.	Ensure that YMP participants develop and implement environmental, safety and health programs.
Director, POCD	2.	Prepare Administrative Procedures (APs) and other directives for the Environmental Program.
YMP Participants	3.	Develop and implement environment, safety and health programs, plans and procedures in accordance with YMP Safety and Health Plan, YMP/90-37 and/or Environmental Management Plan, YMP/CC-0006; submit plan to PM.

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PROGRAM FOR U.S. DEPARTMENT OF ENERGY OPERATIONS

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RESPONSIBLE PARTY	STEPS	PROCEDURE
EMP Participants	4.	Conduct internal environment, safety and health appraisals. Prepare written reports and send to PM. Send a copy of safety and health appraisals to DOE S&H. Send a copy of environmental appraisals to Director, POCD.
Director, POCD/DOE/S&H	5.	Conduct appraisals of environmental, safety and health programs, plans, and facilities. Provide overview of environmental safety and health activities.
ECPD	6.	Perform environmental audits and surveillances.

6.0 REFERENCES

Refer to the latest revision of the documents listed below unless otherwise stated.

6.1 REQUIREMENTS DOCUMENTS

YMP Safety and Health Plan, YMP/90-37

Environmental Management Plan, YMP/CC-0006

6.2 INTERFACE DOCUMENTS

AP-5.7, Safety and Health Compliance Inspection

AP-5.38, Safety and Health Appraisal

AP-5.46, Environmental Compliance Auditing and Surveillance of Yucca Mountain Site Characterization Project Activities

7.0 FIGURES AND ATTACHMENTS

Figure 1, AP-5.43 Flowchart

8.0 RECORDS

There are no Quality Assurance records generated as a result of this procedure. All other documents generated as a result of this procedure are non-record documents.

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7/12/94

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

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PROGRAM FOR U.S. DEPARTMENT OF ENERGY OPERATIONS

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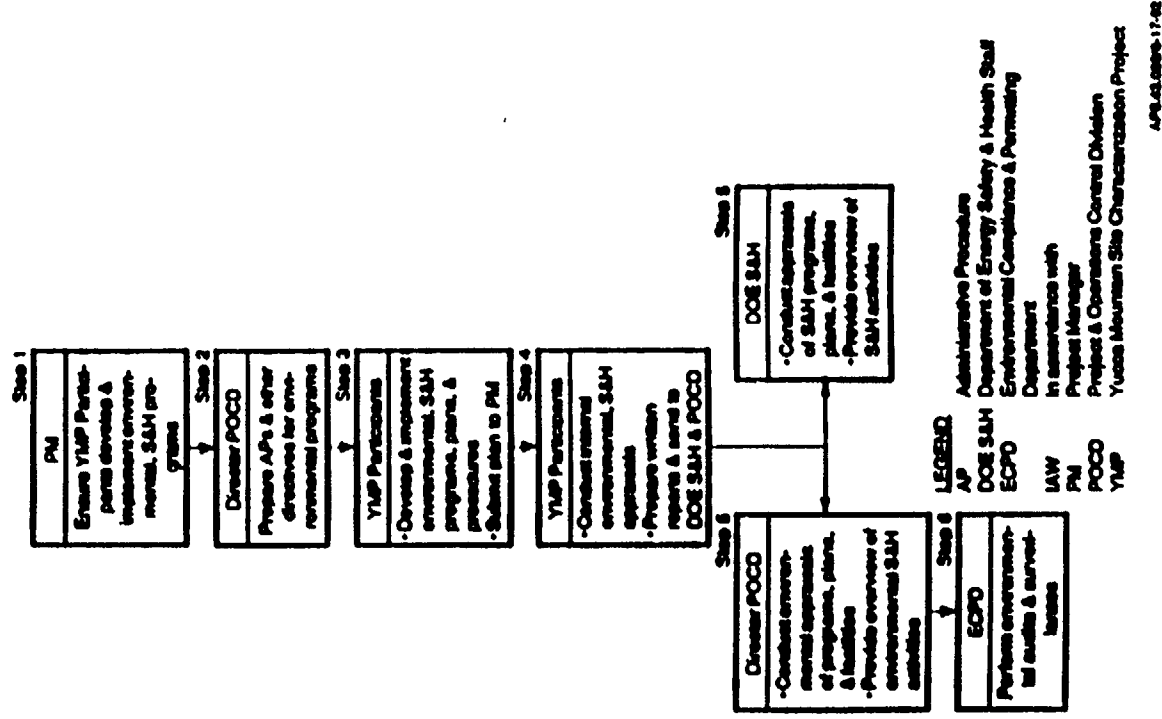


Figure 1 - AP-5.43 Flowchart

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APPENDIX B3

AP-5.46

**ENVIRONMENTAL COMPLIANCE AUDITING AND
SURVEILLANCE OF YUCCA MOUNTAIN SITE
CHARACTERIZATION PROJECT ACTIVITIES**

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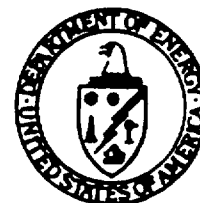
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YMP-054-R0 YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE
7/12/91 DOCUMENT APPROVAL SHEET

Title ENVIRONMENTAL COMPLIANCE AUDITING AND SURVEILLANCE OF YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT ACTIVITIES		NO. AP-5.46 110 <input checked="" type="checkbox"/> Non O
PROJECT MANAGER:	<u><i>Robert M. Banta</i></u> Signature <i>For Carl Bantz</i>	<u>8/5/92</u> Date
DIRECTOR OF QUALITY ASSURANCE:	<u>N/A</u> Signature	<u>N/A</u> Date
Director P&OCD (OTHER, AS REQUIRED)	<u><i>[Signature]</i></u> Signature	<u>8-5-92</u> Date
REVISION 0 EFFECTIVE DATE:		<u>8/14/92</u>

	REVISIONS			
	INITIAL AND DATE			
	REVISION 1	REVISION 2	REVISION 3	REVISION 4
PROJECT MANAGER:	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
DIRECTOR, QA:	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
<u>N/A</u> (OTHER, AS REQUIRED)	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
EFFECTIVE DATE:	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>

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TRAINING REQUIRED ☐ YES ☒ N/A NUMBER OF DAYS REQUIRED FOR TRAINING N/A

COMMENTS: *New document, training will be afforded upon request. Per telecon with Karen Olsson. AP 8-10-92*

Gregory A. Manser for RAM 8/10/92
 TRAINING OFFICER/TRAINING MANAGER DATE

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Procedure No.: AP-5.46

Revision:

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ENVIRONMENTAL COMPLIANCE AUDITING AND SURVEILLANCE OF
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT ACTIVITIES

1.0 PURPOSE AND SCOPE

1.1 PURPOSE

The purpose of this procedure is to assign responsibilities and establish a process for the Yucca Mountain Site Characterization Project Office (YMPO) to audit and surveil Yucca Mountain Site Characterization Project (YMP) environmental compliance activities. The purpose is to ensure that YMP activities are being performed in compliance with applicable environmental regulatory, monitoring, and mitigation requirements, permit conditions and stipulations, and applicable environmental portions of YMP requirements documents.

This procedure implements the requirements of the Environmental Regulatory Compliance Plan DCE/RW-0299 (ERCP) (Section 4.4 Environmental Compliance Audit Program).

1.2 SCOPE

The scope of this procedure covers all site characterization field activities and all YMP participants that are required to comply with environmental regulatory requirements. This procedure does not preclude periodic field inspections by cognizant environmental compliance specialists, nor does it relieve any worker of the responsibility to report potential environmental problems immediately.

2.0 APPLICABILITY

This procedure applies to all site characterization field activities performed by YMPO staff and YMP participants at the Nevada Test Site, on the YMP Right-of-Way Reservation (ROWR), and at other locations unless exempted by the Project Manager.

3.0 DEFINITIONS

Terms in this procedure are used as defined in the Project Glossary, YMP/89-15. The following additional definitions are adopted for the purpose of this procedure.

3.1 ENVIRONMENTAL COMPLIANCE AUDIT

An Environmental Compliance Audit is the act of systematically determining the environmental status of a given facility, site, activity or field work in order to verify compliance with established requirements and determine the effectiveness of implementation.

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YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE

Procedure No.: AP-5.46

ENVIRONMENTAL COMPLIANCE AUDITING AND SURVEILLANCE OF
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT ACTIVITIES

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3.2 ENVIRONMENTAL COMPLIANCE SURVEILLANCE

An Environmental Compliance Surveillance is a routine, unannounced "spot check" during normal YMP activities (i.e., non-emergency event or situation) to ensure that deficient practices or conditions are not occurring. A surveillance shall be performed periodically, as determined by the Project and Operations Control Division (POCD), and may cover any or all of the items investigated during an Environmental Compliance Audit.

3.3 CORRECTIVE ACTION

A corrective action is a measure(s) taken to rectify conditions that are not in compliance with environmental requirements.

4.0 RESPONSIBLE PARTIES

The following YMP individuals or organizations are responsible for activities identified in Section 5.3 of this procedure.

1. YMPO Project and Operations Control Division (POCD)
2. Technical and Management Support Services (TMSS) Environmental Compliance and Permitting Department (ECPD)
3. Audit Team
4. Audit Team Leader (ATL) and/or Surveillance Team Leader (STL)
5. Responsible Staff Person (RSP)
6. YMP Participant Technical Project Officer (TPO)

5.0 PROCEDURE

A flowchart of the following processes described in this procedure is attached as Figure 1.

<u>RESPONSIBLE PARTY</u>	<u>STEPS</u>	<u>PROCEDURE</u>
--------------------------	--------------	------------------

PREPARING FOR THE AUDIT

NOTE: An audit is formally scheduled (i.e., announced) prior to its undertaking.

POCD

1. Request ECPD to conduct an environmental compliance audit or surveillance on a

**YMP-053-R0 YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT
7/12/91 PROCEDURE**

Procedure No.: AP-5.46

ENVIRONMENTAL COMPLIANCE AUDITING AND SURVEILLANCE OF
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT ACTIVITIES

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RESPONSIBLE PARTY

STEPS PROCEDURE

PCDD

specific YMP activity once every six months, or as deemed necessary. If an audit is requested, proceed to Step 2. If a surveillance is requested, proceed to Step 30.

ECDD

2. Assign an ATL.

ATL

3. Review existing environmental compliance documentation pertaining to an activity or organization, including, but not limited to, the following items:

- a. Land access and environmental compliance approval for an activity received from Administrative Procedure (AP) AP-8.1, Land Access and Environmental Compliance.
- b. Environmental requirements specified in any requirements documents (e.g., APs, Hazardous Materials Management and Handling Plan (HMMHP) YMP/91-35, and ERCP) written for the activity
- c. Environmental permit conditions applicable to the activity
- d. Land access and/or RCWR conditions applicable to the activity
- e. Federal and state environmental regulations

4. Assemble an Audit Team to perform the audit.

NOTE: The qualifications of Audit Team members would vary depending on the activity and type of audit to be conducted.

5. Prepare an activity-specific audit checklist, with assistance from the Audit Team, as required. Attachment 1 provides a list of potential checklist items organized by general environmental category.

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RESPONSIBLE PARTY

STEPS PROCEDURE

ATL

6. Prepare an audit plan to describe the details of the proposed audit that would, at a minimum, identify the following items:

- a. Audit scope
- b. Name of activity to be audited
- c. Requirements governing the activity
- d. Organization to be audited
- e. Names of the Audit Team members
- f. Audit schedule
- g. Audit checklist
- h. Applicable documents

7. Submit the audit plan and checklist to the POCD for approval.

POCD

8. Approve the audit plan and checklist.
9. Notify the Site Manager of the proposed audit.
10. Notify the TPO of the audit and request that an RSP be named as the point-of-contact for the audit.

CONDUCTING THE AUDIT

ATL

11. Contact the designated RSP of the activity or organization being audited to initiate the audit and request any needed assistance, including scheduling audit activities, locating people or documents, and visiting the activity job-site.
12. Supervise and coordinate the audit to be conducted by the Audit Team.

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<u>RESPONSIBLE PARTY</u>	<u>STEPS</u>	<u>PROCEDURE</u>
Audit Team	13.	Conduct the audit following approved audit plan by completing the audit checklist as instructed by the ATL.
	14.	Submit the completed checklist to the ATL for compilation.
ATL	15.	Compile the completed checklists from Audit Team Members and receive clarification from them, if necessary.
	16.	Notify the RSP, TPO, Site Manager, and POCD of any deficient practices or conditions identified.
RSP	17.	Take immediate action to resolve deficiencies, including stopping work, if necessary.
	18.	Notify ATL of immediate corrective action taken.
RSP and ATL	19.	If deficiencies warrant, initiate unusual occurrence reporting, in accordance with AP-2.9, Occurrence Reporting and Processing of Operations Information; and/or report the questionable activities or conditions, in accordance with AP-6.18, Resolutions of Environmental, Safety and Health Concerns.

REPORTING

ATL	20.	Document audit results in a report that contains, as a minimum, the following elements: <ul style="list-style-type: none">a. Date of auditb. Description of the activity or item auditedc. The requirements governing the activity
-----	-----	--

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RESPONSIBLE PARTY

STEPS

PROCEDURE

ATL

- d. Persons conducting the audit
- e. Persons contacted during the audit
- f. Audit results/observations
- g. Deficiencies identified during the audit (see Step 16)
- h. Summary of any immediate corrective action taken (see Step 18)
- i. Recommendations for future corrective action
- j. Effectiveness of environmental compliance implementation

21. Sign and submit the audit report to the T&MS ECPD Manager.

ECPD

22. Review, approve, sign, and submit the audit report to POCD.

POCD

23. Review, approve, sign, and transmit the audit report to the TPO with copies to the Project Manager, the responsible Division Directors, and the Site Manager. Audit reports should be issued within 30 days of completion of the audit. The report will establish the appropriate date for a response.

CORRECTIVE ACTION

TPO

24. Develop corrective action plan and submit to POCD.

POCD

25. Review and approve the corrective action plan.

TPO

26. Take corrective action and notify POCD when corrective action has been completed.

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RESPONSIBLE PARTY

STEPS

PROCEDURE

PICD

27. Instruct the ECPD to verify that corrective action is complete and adequate.

ECPD

28. If adequate corrective action was taken, notify the PICD. If not, return to Step 24.

PICD

29. Send written confirmation to the IPO and ATL that adequate corrective action was taken, and officially close the audit.

PREPARING FOR THE SURVEILLANCE

ECPD

30. Assign an STL.

NOTE: Surveillance is unannounced.

STL

31. Review existing/available environmental compliance documentation pertaining to an activity or organization, including, but not limited to, the following items:

- a. Land access and environmental compliance approval for an activity received from following the process described in AP-8.1
- b. Environmental requirements specified in any requirements documents (e.g., APs, HMMHP, and ERCPI) written for or about the activity
- c. Environmental permit conditions applicable to the activity
- d. Land access and/or ROWR conditions applicable to the activity
- e. Federal and state environmental regulations

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RESPONSIBLE PARTY STEPS PROCEDURE

CONDUCTING THE SURVEILLANCE

STL

32. Obtain an Environmental Compliance Surveillance Report (ECSR) form (see Attachment 2) and review prior to surveillance of activity or organization.
33. Notify the RSP on site commensurate with initiation of the surveillance.
34. Conduct surveillance and complete the appropriate sections of the ECSR form.

REPORTING

35. Identify to RSP any items requiring immediate action. Complete and sign the ECSR form and submit copies to the RSP, TPO, and POCD within 10 working days of the surveillance.

CORRECTIVE ACTION

RSP

36. If immediate action is required, take corrective action(s) immediately. Proceed to Step 38.
37. If immediate action is not required (or if action taken was insufficient, see Step 41), assure that any deficient practices or conditions are corrected within 5 working days upon receipt of ECSR form.
38. Coordinate with the ECPD (mainly the STL) to ensure satisfactory correction action(s) was/were taken.
39. Upon completion of corrective actions, complete item 11 on the ECSR form and submit form to ECPD.

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<u>RESPONSIBLE PARTY</u>	<u>STEPS</u>	<u>PROCEDURE</u>
ECPD/STL	40.	Conduct a follow-up surveillance to verify that corrective action has taken place. Complete item 13 on ECSR form.
STL	41.	If corrective action was not taken as required, immediately inform RSP and return to Step 37.
	42.	If correction action was taken as appropriate, send ECSR form to POCB for signature.
POCB	43.	Ensure that adequate corrective action was taken, and sign ECSR form to officially close the surveillance period.
	44.	Send original ECSR form to ECPD and copies to the TPO and RSP.

6.0 REFERENCES

Refer to the latest revision of the documents listed below unless otherwise stated.

6.1 REQUIREMENTS DOCUMENTS

Environmental Regulatory Compliance Plan, DOE/RW-0209

Environmental Management Plan, YMP/CC-0006

6.2 INTERFACE DOCUMENTS

AP-1.18Q, Records Management: Las Vegas Record Source Responsibilities

AP-2.9, Occurrence Reporting and Processing of Operations Information

AP-6.13, Authorization for Use of Regulated Hazardous Substances and Materials

AP-6.18, Resolutions of Environmental, Safety and Health Concerns

AP-6.24, Operating the Hazardous Waste Project Accumulation Area Facility

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AP-6.25, Operating Hazardous Waste Satellite Accumulation Areas

AP-9.1, Land Access and Environmental Compliance

Hazardous Materials Management and Handling Plan (HMMHP), YMP/91-35

Materials Reporting and Handling Plan, as required by AP-6.13 and
described in the HMMHP

Project Glossary, YMP/89-15

7.0 FIGURES AND ATTACHMENTS

Figure 1, AP-5.46 Flowchart

Attachment 1, Example Environmental Compliance Audit Checklist

Attachment 2, Environmental Compliance Surveillance Report

8.0 RECORDS

There are no quality assurance records generated as a result of this procedure. A complete administrative record file will be kept to document each activity review and action taken to protect the environment. These administrative record packages will be submitted to the Las Vegas Local Records Center by the ECPD to be forwarded to the Central Records Facility (in accordance with AP-1.18Q).

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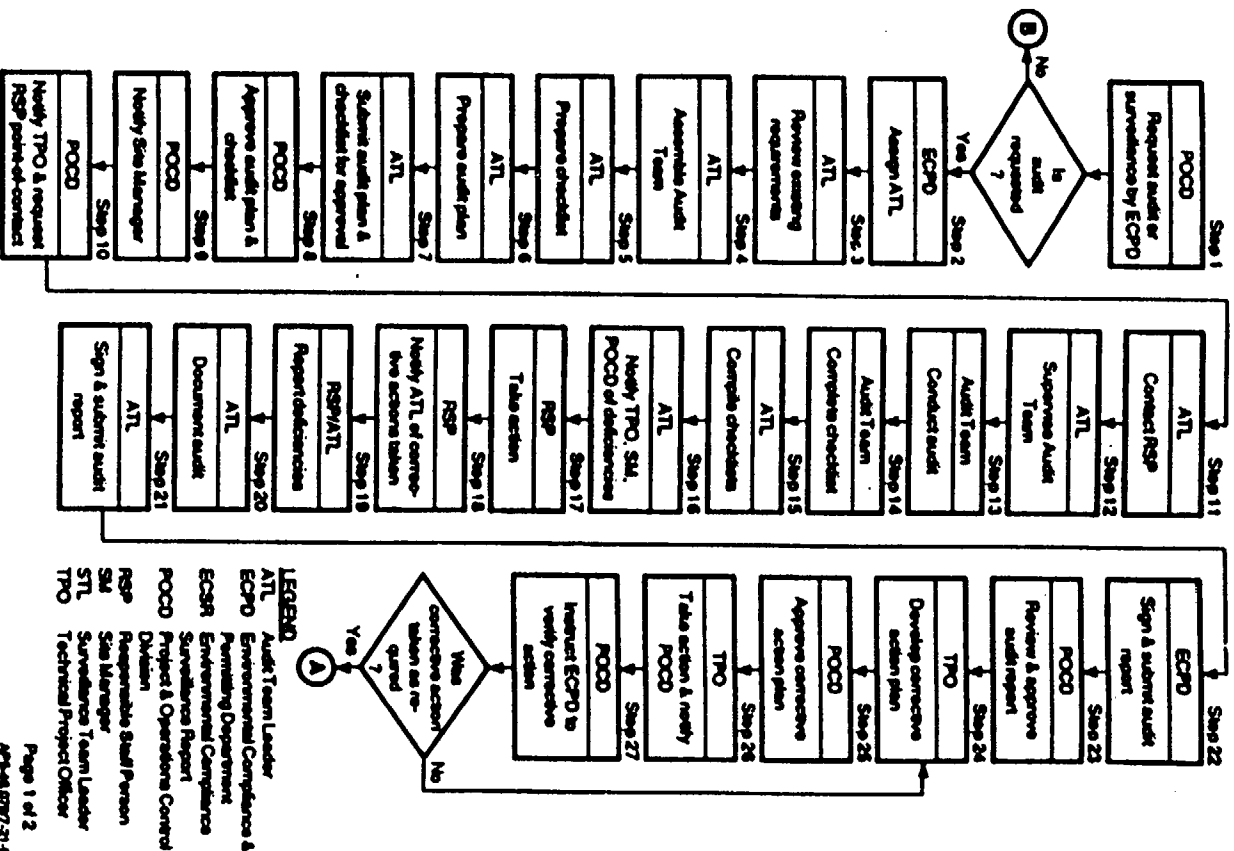


Figure 1 - AP-5.46 Flowchart

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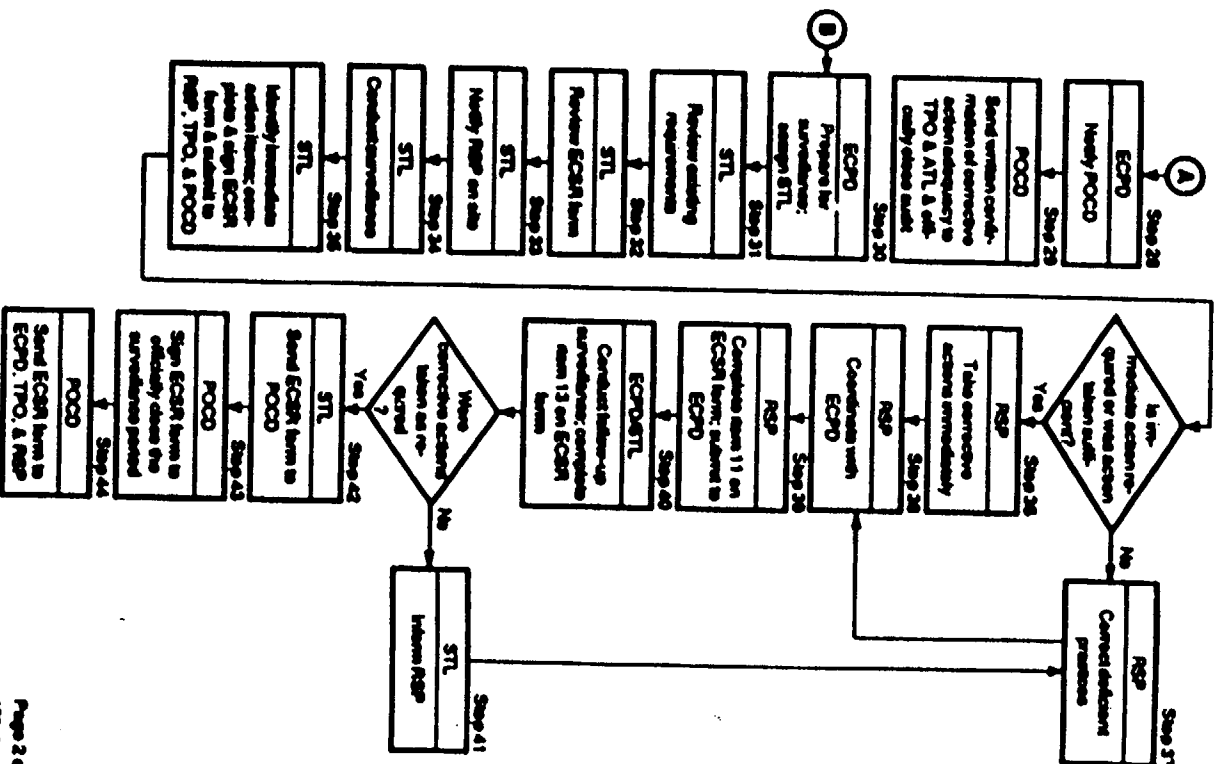


Figure 1 - AP-5.46 Flowchart (continued)

1. ACTIVITY TITLE:

2. REGISTRATION CONDUCTING ACTIVITY:

3. ACTIVITY LOCATION:

4. ACTIVITY DESCRIPTION:

5. PERSON INTERVIEWED:

6. QUESTIONNAIRE: (SAMPLE)

Activities to be audited would generally fall into one of the categories described below. The categories are broadly defined and may be subdivided into sub-categories, where appropriate. The categories each require compliance with appropriate federal and state requirements, as well as Yucca Mountain Site Characterization Project commitments made to minimize impacts. A checklist developed by using questions from each applicable category would allow for consideration of all environmental requirements and constraints that exist for an activity into one checklist. It would not be necessary to include all categories in every audit, and other categories may need to be included in some audits, e.g., radiological and safety and health categories.

1. Land disturbing activities: This category includes activities that remove or alter the surface of the land, and/or change topographical features. Includes biological, cultural, and archaeological impacts. Checklists would include such commitments as development of soil stockpiles with erosion or vegetative cover, and engineering slope angles of storage piles to minimize erosion; or commitments to protect archaeological resources and/or wildlife.

2. Has land access and environmental compliance approval been obtained following AP-5.17

3. Was a copy of the BLM ROWR available at the job-site?

4. Was off-road driving or parking observed?

5. Were reclamation activities being performed as required?

6. Were animals being harassed?

7. Were any threatened or endangered species present or nearby (in close proximity to the site)?

Attachment 1 - Example Environmental Compliance Audit Checklist

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- o Had all personnel working at the site received environmental awareness training?
 - o Had archaeological resources been discovered?
 - o Was erosion noticeable?
 - o Was there any evidence of archaeological resources currently on site?
- 2. Air quality affecting activities: This category includes activities that generate dust, volatile organics (from fuels and solvents), emissions from motors (stationary sources and mobile vehicles), residuals from blasting operations, or other pollutant emissions. Requirements would include such items as determination of proper implementation of dust reduction procedures, the installation or utilization of mechanisms to reduce other forms of emissions, and compliance with permit conditions.
 - o Had an air quality permit been received?
 - o Were permit conditions being satisfied?
 - o Was dust being controlled properly?
 - o Were gaseous emissions being controlled?
- 3. Surface water affecting activities: This category includes activities that alter drainages or the quality of surface waters, (may interrelate with Item 1 above).
 - o Had necessary discharge or construction permits been received?
 - o Were permit conditions being satisfied?
 - o Were effluent streams being properly monitored?
 - o Were tracers used? Had approval to use the tracer been received?
 - o Were activities occurring in the 100-year floodplain?
 - o Was runoff being controlled to minimize erosion?
 - o Was runoff from potentially contaminated areas being controlled?

Attachment 1 - Example Environmental Compliance Audit Checklist (continued)

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4. Groundwater affecting activities: This category includes activities that impinge upon the saturated zone and that affect the quantity or quality of that water; may include injection and pumping procedures.
- ☐ Had necessary appropriation and/or injection permits been received?
 - ☐ Were permit conditions being satisfied?
 - ☐ Were water withdrawals or injection streams being properly monitored?
 - ☐ Were tracers used? Had approval to use the tracer been received?
5. Hazardous materials/wastes activities: This category includes activities that include the use, storage, transportation and disposal, and that may allow the release of hazardous materials or their wastes into the environment.
- ☐ Were hazardous materials being used?
 - ☐ Had these materials been approved following AP-6.13?
 - ☐ Were hazardous waste storage containers in good condition and properly labeled?
 - ☐ Were storage areas properly constructed and labeled?
 - ☐ Did storage areas have adequate containment, including secondary containment?
 - ☐ Were hazardous waste storage containers kept closed?
 - ☐ Had any spills occurred?
 - ☐ If so, were the spills promptly and adequately cleaned-up?
 - ☐ Was the spill appropriately documented and reported, if applicable?
 - ☐ Had a Satellite Accumulation Area (SAA) been established?
 - ☐ Were the procedures for the operation of the SAA (AP-6.25, Operating Hazardous Waste Satellite Accumulation Areas) being followed?

Attachment 1 - Example Environmental Compliance Audit Checklist (continued)

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- o Was a Contingency Plan in place?
 - o Was an Emergency Preparedness Plan in place?
 - o Were personnel properly trained?
 - o Were records correct and properly filed?
 - o Were the procedures for the operation of the Project Accumulation Area (AP-6.24, Operating the Hazardous Waste Project Accumulation Area Facility) being followed?
 - o Were waste minimization practices established and being followed, in accordance with the Hazardous Materials Management and Handling Plan (HMMHP), Appendix C, Waste Reduction and Minimization?
6. Non-hazardous wastes activities: which include activities that generate, store or are associated with the disposal of non-hazardous wastes.
- o Were non-hazardous wastes being disposed of properly?
 - o Were non-hazardous wastes removed from the site in a timely manner (i.e., trash picked up and removed from the area as frequent as necessary)?
 - o Did uncovered trash containers exist?
 - o Was there evidence of hazardous wastes being disposed of with the non-hazardous wastes?

VII. RECOMMENDED CORRECTIVE ACTION:

Audit Team Member/Date

Audit Team Leader/Date

Attachment 1 - Example Environmental Compliance Audit Checklist (continued)

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YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT ENVIRONMENTAL COMPLIANCE SURVEILLANCE REPORT

Report No.: _____
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¹ Date/Time: _____

² Activity: _____ ³ Organization: _____

⁴ Location: _____

⁵ Person(s) Contacted/Organization/Title: _____

⁶ Surveillance Team/Organization/Title: _____

_____/_____/_____
_____/_____/_____
_____/_____/_____

⁷ Items Investigated: _____ Ref. No. _____ Comments _____

____ Site Condition

____ Archaeological/Biological

____ Regulated Material Use

____ Effluent(s)

____ Reclamation

____ Other

⁸ Findings/Recommendations: _____

⁹ IMMEDIATE ACTION REQUIRED? YES _____ NO _____

¹⁰ _____
Surveillance Team Leader Signature Date

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Attachment 2 - Environmental Compliance Surveillance Report

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YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT ENVIRONMENTAL COMPLIANCE SURVEILLANCE REPORT

Report No.: _____

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11 Corrective Action Taken

12

Responsible Staff Person Signature

Date

13 Corrective Action Verification

14

Surveillance Team Leader Signature

Date

15 Surveillance Closure

16

POCD Signature

Date

17 Distribution

AP-5.46

Attachment 2 - Environmental Compliance Surveillance Report (continued)

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APPENDIX B4

AP-6.18

RESOLUTIONS OF ENVIRONMENT,
SAFETY AND HEALTH CONCERNS

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AP-054-R0 YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE
7/12/91
DOCUMENT APPROVAL SHEET

Title RESOLUTIONS OF ENVIRONMENT, SAFETY AND HEALTH CONCERNS NO. NO. AP-6118
HIS A [] O J
ED ST MP [X] Non O

APPROVAL

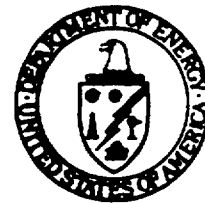
PROJECT MANAGER: Original signed by Maxwell Blanchard for C. P. Gertz
Signature Date
DIRECTOR OF QUALITY ASSURANCE: N/A DGH 1/15/91 N/A
Signature Date
Site Manager Winfred A. Wilson 1/14/91
(OTHER, AS REQUIRED) Signature Date

REVISION 0 EFFECTIVE DATE: 2/1/91

REVISIONS

INITIAL AND DATE
REVISION 1 REVISION 2 REVISION 3 REVISION 4
PROJECT MANAGER: [Signature] [Signature] [Signature] [Signature]
DIRECTOR, QA: N/A
Site Manager Winfred A. Wilson
(OTHER, AS REQUIRED)
EFFECTIVE DATE: 8/6/91
Complete Revision

INFORMATION COPY



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TRAINING REQUIRED ☒ YES ☐ N/A NUMBER OF DAYS REQUIRED FOR TRAINING 10

COMMENTS:
SELF-STUDY FOR
BASELINED
PERSONNEL

TRAINING OFFICER/TRAINING MANAGER [Signature] DATE 7/23/91

OMP-08-04

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1.0 PURPOSE AND SCOPE

1.1 PURPOSE

This procedure assigns responsibilities and establishes a process to stop activities when imminent danger involving the safety or health of Yucca Mountain Site Characterization Project (YMP) personnel, the public or damage to the environment, or natural barriers is suspected. It also establishes a process to initiate actions in response to these dangers, to verify implementation of abatement/corrective actions, and to restart work.

1.2 SCOPE

This procedure applies to all YMP field activities and activities in the Valley Bank Complex and other locations as approved by the Yucca Mountain Site Characterization Project Office (YMPO). The intention of this procedure is not to influence or interfere with quality-affecting activities, but to implement response actions whenever serious environment, safety or health hazards appear to exist, including hazards associated with quality-affecting activities.

This procedure encompasses the following:

- a. The definition of practices or conditions that may require work to be interrupted or temporarily stopped for nonquality affecting reasons.
- b. The definition of responsibilities of individuals to report practices or conditions that may represent an unacceptable risk to life, health, environment, and property or to the completion of authorized work essential to the YMP mission.
- c. The identification of individuals with authority and responsibility to order immediate action to alleviate a environment, safety or health concern.
- d. The description of the process required for implementing and verifying corrective actions before resuming a questionable (undue risk) activity.

Implicit in this Administrative Procedure (AP) is the right and obligation of the contractor to immediately cease operations when the conduct of Participant personnel jeopardizes themselves or the work environment.

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2.0 APPLICABILITY

This procedure is to be used only when practices or conditions exist or are encountered that present a clear and undue risk to the health and safety of Project personnel, the public, the environment, natural barriers or equipment.

NOTE: The initiator should first attempt to resolve concern through his own chain of command. This procedure is to be used when other processes fail to address the concern in a timely manner, or if the activity or condition presents an imminent danger.

3.0 DEFINITIONS

NOTE: Terms in this procedure are used as defined in the Project Glossary. The following additional definitions are adopted for the purposes of this procedure.

3.1 FIELD ACTIVITY

Field activity is any activity conducted that is related to the Exploratory Studies Facility (ESF), surface and nonsurface-based testing operations, and any other construction or maintenance and operation type work that is performed on the YMP support area and Area 25 or at an off-site location.

3.2 QUESTIONABLE ACTIVITY OR CONDITION

Questionable activity or condition is an activity observed or condition encountered, which, if not corrected or is allowed to persist, would represent a hazardous activity with undue risk for any of the reasons listed in Section 3.3.

3.3 ENVIRONMENT, SAFETY AND HEALTH CONCERN

Any activity or condition that gives rise to undue risk for any of the following reasons:

- a. Undue risk to the safety or health of YMP personnel or the public
- b. Significant risk of an uncontrolled release of either radioactive or hazardous materials
- c. Undue risk of substantial damage to YMP equipment, scientific data collection activities, or site integrity

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- d. Significant risk to the environment or noncompliance with applicable environmental laws, regulations, permits, or environmental orders issued by the U.S. Department of Energy (DOE)
- e. Suspected or anticipated risk of jeopardizing natural barriers essential for waste isolation or the ability to develop essential site characterization data
- f. Any activity or condition that, if allowed to persist, would likely result in one or more of the above conditions

3.4 IMMINENT DANGER

Imminent danger is any condition or practice which is such that a hazard exists that could reasonably be expected to cause death or serious physical harm to employees (permanent or prolonged impairment of the body or temporary disablement requiring hospitalization), unless immediate actions are taken to mitigate the effects of the hazards and/or remove employees from the hazard.

3.5 UNDUE RISK

Undue risk is a level of identifiable risk that is unacceptable to DOE. It has the potential to impact people or the environment only on site.

3.6 SIGNIFICANT RISK

Significant risk is a quantitative/qualitative expression of possible loss which considers both the probability that a hazard will cause harm and the consequences of that event. It has the potential to impact large numbers of people either onsite or offsite or will have a major impact on the environment.

4.0 RESPONSIBLE PARTIES

NOTE: The following YMP individuals or organizations are responsible for activities identified in Section 5.0 of this procedure:

1. YMPO Site Manager (SM)
2. YMPO Division Director(s) (DD)
3. Responsible Facility Manager (FM) for specific activity
4. Parties with authority to request SM intervention and/or to stop questionable activities (appropriate party):

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- a. YMPO Safety and Health Staff (S&H Staff)
 - b. YMPO Operations Control Branch Chief (OCB)
 - c. Technical and Management Support Services (T&MSS) Safety and Health Compliance Department Manager
 - d. T&MSS Environmental Compliance and Permitting Department Manager
 - e. YMPO Construction Operations and Test Support Manager
 - f. YMPO Field Testing Coordinator (or designee)
 - g. Other individuals designated in writing by a YMPO DD
 - h. Responsible Technical Project Officer (TPO)
5. YMP Personnel (Any individual is authorized to request that an activity which is thought by the individual to represent imminent danger be halted until the responsible DD and the SM authorize work to resume.) (Initiator)
 6. Field Operations Center (FOC)
 7. YMPO S&H Staff

NOTE: The authority to stop work activities under this procedure is separate and independent of quality assurance (QA) responsibility to stop work as specified in the Office of Civilian Radiological Waste Management (OCRWM) QA Requirements Document, DOE/RW-0215.

5.0 PROCEDURE

NOTE: A flowchart of the following processes described in this procedure is attached as Figure 2.

<u>RESPONSIBLE PARTY</u>	<u>STEPS</u>	<u>PROCEDURE</u>
INITIAL ACTIONS		
Initiator	1.	Report questionable activities or conditions to Field Operations Center if at Yucca Mountain or YMPO Safety and Health Staff if in Valley Bank Complex.
FOC, S&H Staff or OCB	2.	Notify appropriate party (Item 4 of Section 4.0) to take action.

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Procedure No.: AP-6.18

RESOLUTIONS OF ENVIRONMENT, SAFETY AND HEALTH CONCERNS

Revision:

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RESPONSIBLE PARTY

STEPS

PROCEDURE

Appropriate Party

3. Determine if questionable activity or condition represents imminent danger.
 - a. If an activity/condition presents imminent danger or damage to the environment, proceed to Step 4.
 - b. If an activity/condition does not present imminent danger, or damage to the environment, proceed to Step 14.

FOC, S&H Staff
or OCB

4. Contact the responsible FM or TPO by telephone or radio, and order immediate action, as appropriate, to protect lives, property, natural barriers and the environment.

Responsible FM
or TPO

5. Take immediate action to protect lives and property, as ordered.
6. Evaluate activity/condition and determine the actions needed and time required to abate the concern.
7. Verbally report actions taken to the Appropriate Party, FOC or S&H and the cognizant YMPO DD or Branch Chief.
8. If normal operations are delayed for more than two hours to resolve the concern, comply with occurrence reporting required by AP-2.9.
9. Restrict operation of equipment or access to hazardous area using appropriate Participant procedure or YMPO Field Operating Instructions (FOI) for posting warning tags or setting up barricades.
10. Notify SM, cognizant YMPO Branch Chief, and other appropriate parties of restricted activity.
11. Implement other actions as appropriate.

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RESPONSIBLE PARTY

STEPS

PROCEDURE

Responsible FM
or TPO

12. Verbally notify Appropriate Party, FOC or S&H Staff of actions taken to respond to concern. Document actions and notifications by completing Sections 1, 2 and 3 on Attachment 1, Resolution of ES&H Concerns Form and forward copies to the Appropriate Party, FOC or YMP S&H Staff.

Appropriate Party

13. Inspect questioned work location(s), and verify adequacy of investigation, in accordance with DOE Order 5483.1A. Notify initiator of response(s) to the concern and complete appropriate documentation (Attachment 1). Go to Step 20.

NOTE: Steps beginning with 14 are followed when the risk described by the initiator is evaluated by the Appropriate Party to be less severe than imminent danger, but still represents an environment, safety and health concern.

14. Evaluate initiator's concern by investigating the questionable activity within two working days.
15. If the questionable activity is deemed not to represent a significant risk, go to Step 16; otherwise go to Step 17.
16. Notify initiator verbally and in writing that the concern has been investigated and that no action is deemed necessary, the reason for this determination, and his right to request a review of this decision by higher authority. Proceed to Step 27.
17. Verbally contact the FM or TPO, and request an evaluation of the initiator's concern.

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RESPONSIBLE PARTY

STEPS

PROCEDURE

Responsible FM
or TPO

18. Implement Steps 6 through 12 of this procedure.

Appropriate Party

19. Implement Step 13.

PROBLEM RESOLUTION

Responsible FM

20. Develop a corrective action plan, and submit to Appropriate Party and copy to SM if questionable activity is at the site.

Appropriate Party or SM

21. Determine if the corrective action plan is adequate to eliminate the risk(s).

a. If the corrective action plan is not adequate, return to responsible FM. Proceed to Step 22.

b. If the corrective action plan is adequate, approve, and notify responsible FM. Proceed to Step 25.

Responsible FM

22. Consider corrective action plan's inadequacy.

a. If in agreement, proceed to Step 24.

b. If not in agreement, escalate decision to DD (Step 23). Inform SM or Appropriate Party.

DD

23. Determine if corrective action plan is adequate.

a. If corrective action plan is inadequate, inform responsible FM and SM. Proceed to Step 24.

b. If corrective action plan is adequate, inform responsible FM and SM. Proceed to Step 25.

Responsible FM

24. Correct plan inadequacies, resubmit to SM, and proceed to Step 21.

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<u>RESPONSIBLE PARTY</u>	<u>STEPS</u>	<u>PROCEDURE</u>
Responsible FM or TPO	18.	Implement Steps 6 through 12 of this procedure.
Appropriate Party	19.	Implement Step 13.
PROBLEM RESOLUTION		
Responsible FM	20.	Develop a corrective action plan, and submit to Appropriate Party and copy to SM if questionable activity is at the site.
Appropriate Party or SM	21.	Determine if the corrective action plan is adequate to eliminate the risk(s). a. If the corrective action plan is not adequate, return to responsible FM. Proceed to Step 22. b. If the corrective action plan is adequate, approve, and notify responsible FM. Proceed to Step 25.
Responsible FM	22.	Consider corrective action plan's inadequacy. a. If in agreement, proceed to Step 24. b. If not in agreement, escalate decision to DD (Step 23). Inform SM or Appropriate Party.
DD	23.	Determine if corrective action plan is adequate. a. If corrective action plan is inadequate, inform responsible FM and SM. Proceed to Step 24. b. If corrective action plan is adequate, inform responsible FM and SM. Proceed to Step 25.
Responsible FM	24.	Correct plan inadequacies, resubmit to SM, and proceed to Step 21.

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AP-6.14, Reportable Geologic Conditions

QMP-01-02, Stop Work

7.0 FIGURES AND ATTACHMENTS

Figure 1, AP-6.18 Initial Actions Flowchart

Figure 2, AP-6.18 Problem Resolution Flowchart

Attachment 1, Resolution of ES&H Concerns

8.0 RECORDS

Records packages of documentation generated as a result of this procedure shall be assembled and submitted to the appropriate Local Records Center in accordance with requirements specified in approved procedures. No QA records are generated as a result of this procedure.

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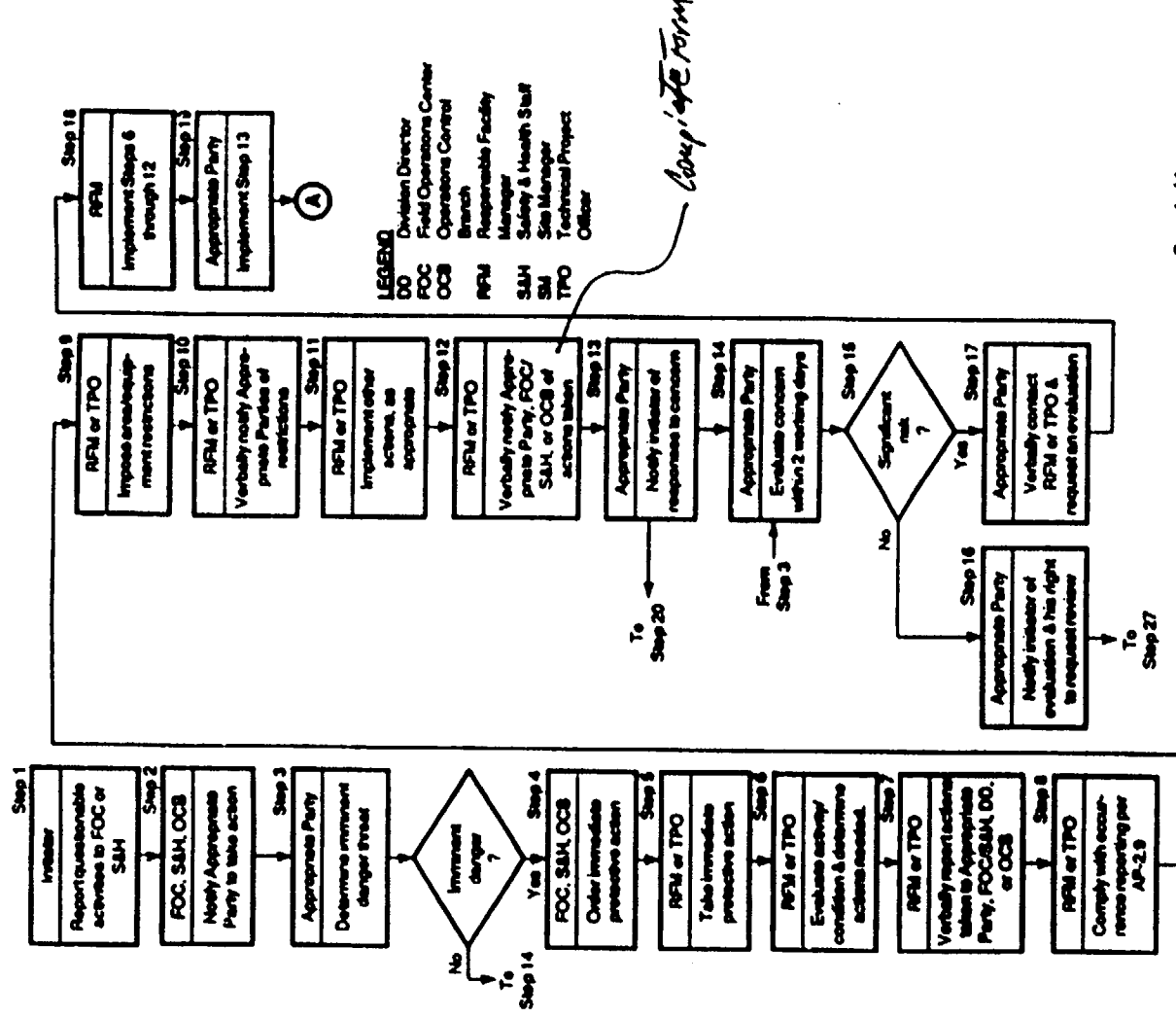
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Figure 1 - AP-6.18 Initial Actions Flowchart

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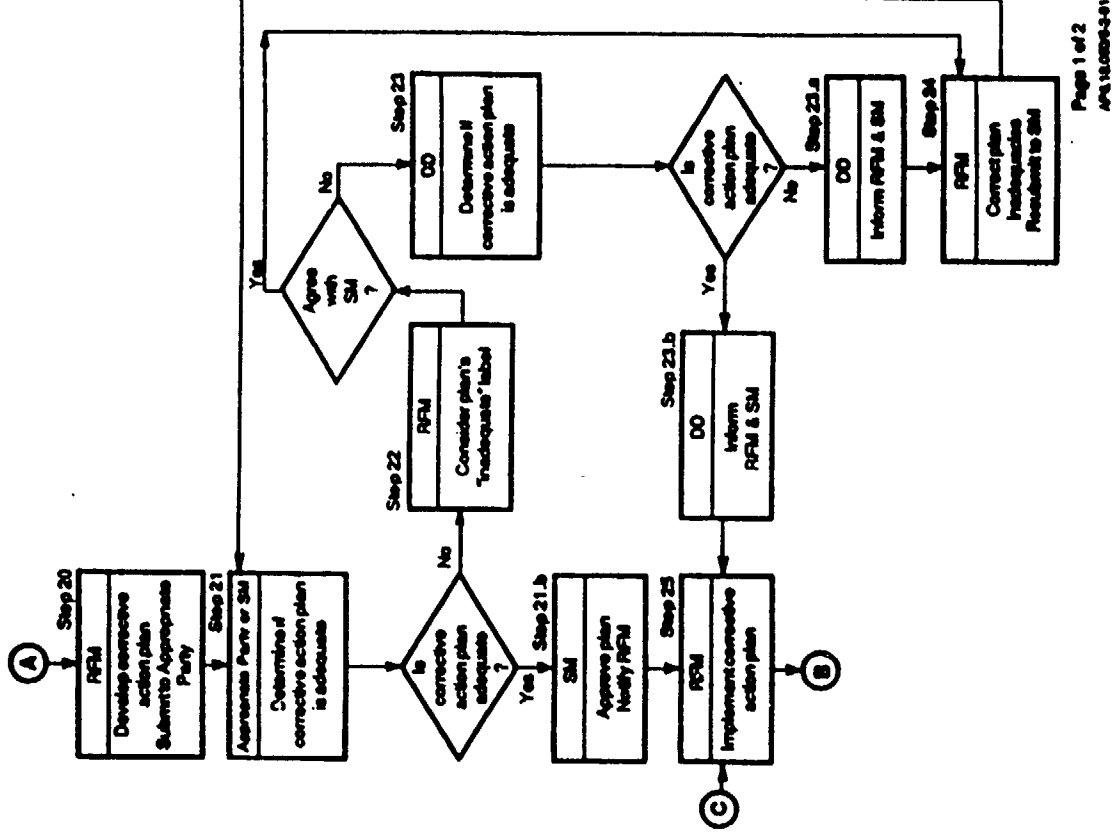


Figure 2. AP-6.18 Problem Resolution Flowchart.

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Figure 2 - AP-6.18 Problem Resolution Flowchart

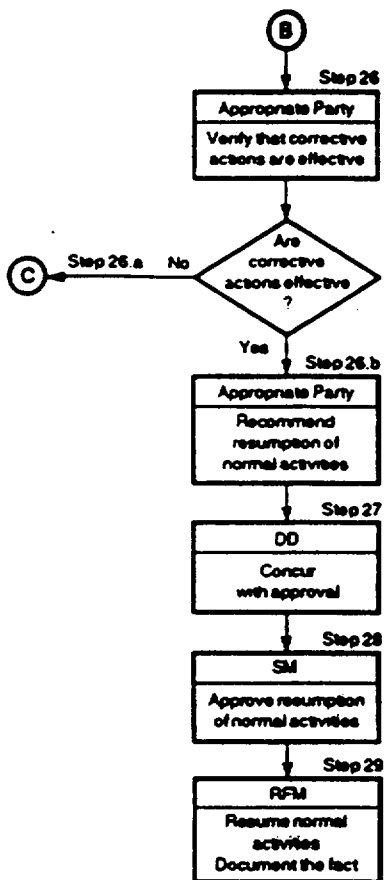


Figure 2. AP-6.18 Problem Resolution Flowchart (continued).

Figure 2 - AP-6.18 Problem Resolution Flowchart (continued)

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YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT RESOLUTION OF ES&H CONCERNS

DATE CONCERN RECEIVED: _____

1. CONCERN: (Brief Description)

2. ACTIONS TAKEN:

3. NOTIFICATIONS:

NAME OF PERSON NOTIFIED:

DATE:

TIME: (Military)

4. CORRECTIVE ACTIONS TAKEN:

VERIFIED BY:
(Signature/Date)

DD Signature

Date

SM Signature

Date

Normal Activities have resumed.

FM Signature

Date

AP-6.18

Figure 2 - AP-6.18 Problem Resolution Flowchart (continued)

APPENDIX B5

YUCCA MOUNTAIN SITE CHARACTERIZATION

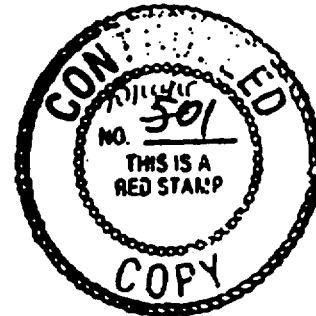
PROJECT TRAINING MANAGEMENT PLAN

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INFORMATION COPY



YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT
TRAINING MANAGEMENT PLAN
REVISION 0

JULY 1992

Prepared for

U.S. Department of Energy
Office of Civilian Radioactive Waste Management

Prepared for the Yucca Mountain Site Characterization Project as part of the Civilian Radioactive Waste Management Program. The Yucca Mountain Site Characterization Project is managed by the Yucca Mountain Site Characterization Project Office of the U.S. Department of Energy. The Yucca Mountain Site Characterization Project work is sponsored by the U.S. Department of Energy Office of Civilian Radioactive Waste Management.

FOREWORD

This Yucca Mountain Site Characterization Project (YMP) Training Management Plan (TMP) has been approved by the Yucca Mountain Site Characterization Project Office for implementation, through procedures, by YMP participant organizations. The TMP supplements and reinforces Section 15.0 of the Project Management Plan, YMP/88-2, by setting forth requirements and providing guidance on elements of the training process such as development responsibilities, operating practices, performance measurement, and documentation. The TMP also describes the objectives, responsibilities, and interrelationships of those YMP organizations that provide, or are dependent upon, a program of employee qualification, orientation, indoctrination, and other training.

Approved by:

Maxwell B. Blanchard
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7-21-92
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7/21/92
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1.0 INTRODUCTION

1.1 PURPOSE

The Training Management Plan (TMP) defines the unique application of a Systematic Approach to Training (SAT) for development of the Training Program for the Yucca Mountain Site Characterization Project (YMP). The Training Program produces documentation that personnel performing activities subject to quality program controls are qualified in the principles, techniques, and requirements of the activity to be performed. Through training both safety and quality are incorporated into each job task by teaching correct procedures and emphasizing mandatory compliance to procedures. The TMP identifies the (1) interface relationships, (2) organizational structures, (3) objectives, and (4) responsibilities of the individual organizations which provide, or depend upon, a program of employee qualification, orientation, indoctrination, and other training.

1.2 TRAINING MISSION

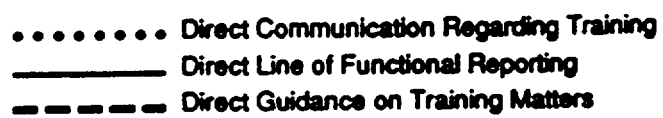
The training mission is to support the YMP commitment to excellence with a training program that provides for indoctrination and training of personnel to ensure that suitable proficiency is achieved and maintained.

1.3 TRAINING MANAGEMENT PLAN OVERVIEW

The TMP includes all activities associated with employee qualification, orientation, indoctrination, and training necessary to enable individuals to perform specific job tasks in a complex and highly regulated work environment. The TMP requires establishment of management controls in the areas of (1) training records management, (2) training schedules, (3) training materials development and configuration control of approved training materials, (4) evaluations of training effectiveness, (5) resource planning, and (6) types of records to be maintained, and limitations of access.

1.4 TRAINING MANAGEMENT ORGANIZATION

Management of the training development process is the responsibility of the Yucca Mountain Site Characterization Project Office (YMPO) Training Officer who reports to the YMPO Deputy Project Manager. Figure 1-1 illustrates the relationships of the YMPO training organizations. Specific applications of the TMP are carried out by a designated Training Manager in each YMP participating organization.



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Figure 1-1. Training Organization

KEY TRAINING MANAGEMENT POSITIONS**Project Manager**

The YMPO Project Manager has overall responsibility and authority for the conduct of work on the YMP as presented in the Project Management Plan. The Office of the Project Manager, through the YMPO Deputy Project Manager and YMPO Training Officer, has oversight of the training mission. Direction is provided through plans, policies, and procedures, and written directives of the YMPO Project Manager or his designee.

Training Officer

The YMPO Training Officer reports to the YMPO Deputy Project Manager and is the U.S. Department of Energy (DOE) YMPO functional interface for training. The position is delegated full responsibility and authority to provide overall direction for YMP training and to establish training policy ensuring that the training programs for YMP personnel comply with regulatory requirements and YMPO DOE goals.

Training Manager

The Training Manager is the individual authorized by the YMPO Training Officer to operate the YMPO Training Center and to provide orientation, indoctrination, and other training for the YMPO and other YMP contractor personnel located in Las Vegas, including those personnel supporting the Office of Civilian Radioactive Waste Management (OCRWM) Quality Assurance (QA) Program. The Training Manager has also been endorsed to conduct field training at the Yucca Mountain site.

As directed by the YMPO Training Officer, the T&MSS Training Manager is delegated full responsibility and authority to develop and implement a training process that (1) includes a SAT for YMPO and YMPO support staff working to the OCRWM QA Program, and (2) complies with Federal, State, QA, and regulatory requirements and YMPO DOE goals.

Participant Training Managers

The Technical Project Officer (TPO) for each participant organization may delegate responsibility for training. The YMP Participant Training Manager, or equivalent, may be delegated full responsibility and authority by the YMP Participant TPO for the development and implementation of a training program that (1) meets the guidelines set forth by the YMPO Training Officer for a SAT within the participant organization, and (2) complies with Federal, State, QA, and regulatory requirements and DOE goals.

1.5 TRAINING MANAGEMENT PLAN DOCUMENTATION

Documentation includes appropriate objective evidence of (1) individual qualification and training records, (2) lesson plans and other training materials, (3) classroom attendance records, (4) required self-study assignment confirmations, (5) instructor qualifications, (6) training

assessments, and (7) remedial action documents, as applicable. Documents are processed and maintained in accordance with the YMP Records Management Plan, YMP/CC-0016. The scope and content of such records are governed by the Privacy Act of 1974.

1.6 TRAINING DEVELOPMENT PROCESS DEFINITIONS

Analysis - The phase of the SAT that assesses performance requirements or deficiencies, determines the needs that are best satisfied through training, and produces task performance data that serves as the foundation for training program design, development, and implementation.

Baseline Training/Maintenance Required - Baseline training/maintenance required is the employee's training assignments that are required to be maintained as assigned documents or activities are revised or changed.

Briefing - A method of documented instruction, not requiring an approved lesson plan, for disseminating instructions or information to a group in an informal setting.

Classroom Training - Structured formal instruction presented in a classroom environment by a qualified instructor using a lesson plan. This instruction may be a lecture, or modified lecture, or seminar format.

Continuing Training (Maintenance) - A systematic program of instruction designed to maintain proficiency and improve incumbent job performance.

Design - The phase of the SAT in which products of the analysis phase are used to develop specifications for training program development and implementation; includes developing job performance measures, selecting training setting, developing learning objectives and tests, determining expected trainee entry-level skills and knowledges, and formulating the training plan.

Development - The phase of the SAT that involves establishment of learning activities, selection of media and methods, review and selection of existing course material, development of new material, and the tryout and revision of course material.

Evaluation - The phase of the SAT in which indicators (e.g., operating experiences, employee performance, job requirements, etc.) are monitored, assessed, and used to maintain and improve the performance of a training program.

Formal Instruction - An in-depth instruction provided to personnel to develop and maintain proficiency in the application of selected requirements, methods, and procedures, and to adapt to changes in technology, methods, or job responsibilities. Formal instruction requires a lesson plan and evaluation to ensure that specified objectives are met. Evaluations may be achieved in writing, through demonstration, or by verbal answers.

Implementation - The phase of the SAT in which the training program is put into operation; includes implementing the training plan, preparing for and conducting training, conducting in-training evaluation, and documenting training.

Indoctrination - A method of training accomplished by briefings, self-study, classroom instruction, or a combination provided to familiarize personnel with documents, requirements, regulations, and policies applicable to assigned job activities.

Initial Training - A systematic program of training and indoctrination designed to assure that personnel possess the knowledge and skills necessary to perform assigned job functions. Achievement of proficiency in performing an assigned task is the desired result of initial training.

Instructor - An individual who is qualified to develop and conduct training, and evaluate trainee's accomplishment of learning objectives.

Laboratory Training (Workshop) - A method of instruction in which the training setting allows more than one condition of job performance to be simulated. This permits application of course material by the trainee in a hands-on environment.

Learning Objective - A statement that specifies measurable behavior that a trainee should exhibit after instruction, including the conditions of and standards for performance.

Lesson Plan - An approved instructor's document that outlines instructor and trainee activities, learning objectives, lesson content, and resources necessary for the conduct of training.

Maintenance of Proficiency - Those training actions required to sustain the ability to perform tasks in accordance with QA Program controls. Proficiency may be maintained by self-study, classroom training, or ongoing task performance.

New Employee - A person recently hired or transferred for permanent or temporary assignment to the YMP and who requires YMP training.

Non-Permanent Personnel - Persons whose job assignment in support of OCRWM is less than 90 consecutive days in duration.

On-the-Job Training - A method of instruction in which the trainee achieves learning objectives through structured training conducted in the job environment.

Orientation - Formal or informal indoctrination conducted to familiarize personnel with topics that may not be related to QA or regulatory requirements, but may be of general interest and value in enhancing job performance.

Position Description - Documentation of the duties to be performed and the minimum qualifying experience, education, and professional training required for a position, synonymous with job description.

Position Qualification Evaluation - A position qualification evaluation is a documented review by the supervisor to determine that an employee meets the minimum qualification requirements of the assigned position. This may be performed in the hiring process.

Proficiency - Proficiency is an employee's capability to demonstrate the cognitive process and/or the manual skills required to meet the conditions and standards of performance of an assigned task.

Privileged Record - A record that contains nonsecurity-classified information and requires protection against unauthorized disclosure.

Self Study - A method of instruction in which the pace of training is controlled by the trainee and guided by the program materials. This method does not satisfy the requirements of a SAT unless evaluation of learning objectives is performed.

Supervisor - Any person who directs the activities of one or more subordinates. The supervisor is responsible for performing the subordinate's qualification evaluation and for assigning training to the subordinate.

Systematic Approach to Training - A training approach determined by management that establishes training requirements based on the functions an individual employee is required to perform. The determined method should identify (1) assignment of initial and continuing training, (2) learning objectives if applicable, and (3) documentation of measurement and achievement of learning objective upon completion of formal instruction. Self-study training may be included in the SAT.

Task - A well-defined unit of work having an identifiable beginning and end, with two or more discrete actions executed during performance.

Trainee - An individual who has not completed his/her assigned training requirements.

Training - Formal instruction, direction, or indoctrination that provides the knowledge, skill, and proficiency required for an individual to become and to remain qualified. Training may be accomplished through classroom instruction, formal on-the-job instruction, self-study, or other methods of instruction. Training may include baseline/maintenance required, initial training, or continuing training.

Training and Qualification Records - Those records containing information generated as a result of implementing personnel qualification, indoctrination and training, and certification procedures that provide evidence that DOE and contractor personnel have adequate education, training, and experience to perform activities subject to program requirements. These records are maintained as privileged records under DOE System 80 of the Privacy Act.

Training Officer - The individual who is directly responsible for the development, coordination, and implementation of the indoctrination and training program. The Training Officer is responsible for ensuring that the DOE System 80 program for privileged records is maintained. The Training Officer's actions and responsibilities may be delegated.

Training Program - A planned, organized sequence of documented training steps designed to prepare an individual to perform assigned activities and to maintain that individual's proficiency in performing those activities.

Qualification (Personnel) - The characteristics or abilities gained through training, experience, or both that enable an individual to perform a required function.

Qualified Party - A competent person or organization recognized as knowledgeable to perform certain functions.

Real-time Training - A method of indoctrination accomplished prior to performing quality affecting activities that familiarizes personnel in the requirements of documents that are not part of an individual's baseline training/maintenance required. This method of indoctrination requires the individual to read and understand the document prior to performing the non-baselined activity. Real-time training is only required for individuals attesting to performing a quality affecting activity by full signature on a QA record and is not required for Procedure Compliance Documentation forms or completion of Self-Study forms.

Refresher Training - Refresher training is supplementary periodic training designed to ensure maintenance of knowledge and skills necessary to meet or exceed established performance standards.

2.0 TRAINING MANAGEMENT OBJECTIVES

2.1 OVERVIEW

The YMPO Training Officer sets policy and defines objectives for the Training Development Process. Long- and short-range objectives to be achieved by the training process are determined by the YMPO Training Officer with input from the training managers and respective TPOs. To facilitate goal setting, periodic meetings of training managers, or their representatives, will be conducted for the purposes of information exchange, deliberation of policies and practices, program unification, and general Training Development Process improvement.

2.2 TRAINING OBJECTIVES

Training objectives identified by the YMPO Training Officer are as follows:

1. Meet regulatory requirements and DOE goals.
2. Develop and implement a SAT at all organizational levels.
3. Provide, or assist management in establishing, a measurable basis for determining individual training requirements.
4. Ensure effectiveness of training through objective standards of performance measurement.
5. Support management and staff in effectively achieving and maintaining required performance levels.

2.3 TECHNICAL OBJECTIVES

Technical objectives are framed in the applicable regulatory requirements and DOE Orders. Of primary importance are the criteria for preparing personnel for the complexity and hazard potential which may be encountered to meet mission objectives. Technical objectives identified by the YMPO Training Officer are:

1. Establish a controlled structure of SAT training requirements.
2. Establish a baseline of topics and skills categories related to each job function which must be mastered by the individuals assigned to that job. Further, ensure individuals can recognize and avoid hazards associated with each job.
3. Maintain current status of the achievement and maintenance of baselined skills and knowledge by individuals.

4. Assess the effectiveness of training disciplines based on performance feedback.
5. Institute corrective actions and a system for configuration control of approved training materials which provides the flexibility to adapt to changing YMP requirements.

2.4 SCHEDULE OBJECTIVES

The effectiveness of the training function is directly related to the timeliness of the instructional schedule. It is a fundamental goal of the YMPO Training Officer to closely align the YMP curriculum with the YMP milestones established by YMP management. To achieve this end, the following objectives have been identified by the Training Officer:

1. Establish a baseline of training courses offered on a regular basis.
2. Provide assistance to managers and supervisors in identifying specific training needs to accomplish YMP goals.
3. Focus training schedules to ensure personnel are qualified to perform job-related tasks prior to the initiation and execution of the tasks.
4. Develop a curriculum of maintenance and refresher courses to coincide with the performance of job-related tasks.
5. Ensure instructors are qualified and needed training resources are in place to support scheduled YMP work activities.

2.5 COST/BENEFIT OBJECTIVES

The YMP Training Program is designed to produce cost-effective instruction and qualification by integrating training activities with other business processes. Training needs are to be based on the job to be performed, rather than setting forth requirements for general exposure of all YMP personnel to policies, plans, and procedures that may not impact the duties of many. To this end, the following cost/benefit objectives are identified:

1. Minimize costly errors or omissions, use training aspects that are designed not only to familiarize the trainee with specific instructions to perform a job, but also to give the trainee an adequate background in the rationale for doing work in the prescribed manner and the consequences of certain actions.
2. Centralized training facilities and resource pooling are to be used whenever practicable to provide optimum exposure of training courses at least cost for such items as lesson preparation, facilities,

instructor qualification, classroom materials, travel, and other direct expenses associated with training.

3. Use of remote training such as videotaped instruction sessions and other techniques to offset the costs of bringing a large number of trainees requiring specific courses to a central location. An instructor may be made available for remote classes of 12 or more people.
4. In all cases, the instructional methods shall be chosen to provide initial and continuing training suitable to satisfy the regulatory requirements and management objectives with an emphasis on the value-added concept.

2.6 YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE SYSTEMATIC APPROACH TO TRAINING OBJECTIVES

The YMPO Training Officer has directed the Training Manager to meet the following objectives in applying a SAT to YMPO and associated training:

1. Perform systematic evaluation of jobs identified to meet the mission objectives.
2. Derive learning objectives from job analyses that describe the desired performance of training candidates after training.
3. Base design and implementation of training on identified learning objectives.
4. Methodically evaluate trainee mastery of required learning objectives.
5. Assess the effectiveness of the training process and systematically revise the training regimen where inefficient or substandard results are discovered.

3.0 TRAINING DEVELOPMENT RESPONSIBILITIES

3.1 TRAINING OFFICER

The YMPO Training Officer is delegated complete responsibility and authority to conduct orientation, indoctrination, and initial and continuing training for the YMP. The YMPO Training Officer establishes the training policy and requirements for the DOE and all contractors and matrixed support agencies performing work at the YMP. Primary areas of management attention include:

1. Providing direction to the Training Manager for support of YMPO training goals. This direction includes the commitment to a SAT; that is, use of training feedback loops and training needs analysis, and support in the evaluation of participant training programs and training needs.
2. Interfacing with DOE Headquarter's personnel for determination and coordination of training needs.
3. Providing programmatic direction and policy for the YMP training programs.
4. Ensuring that field training support is provided for by the Training Manager.
5. Interfacing with other YMP participants to ensure attainment of YMP training goals.

3.2 TRAINING MANAGER

The Training Manager has been directed by the YMPO Training Officer to apply a SAT to the development and implementation of a training program. This program will comply with all QA, and regulatory requirements, and DOE goals. Under direction from the DOE, the Training Manager:

1. Has overall responsibility and authority for implementation of the training program for YMPO and support personnel (site and field).
2. Has overall responsibility and authority for all administrative duties associated with the YMPO Training Center.
3. Is responsible for interfacing with other managers, as necessary, to ensure compliance with training requirements and implementation of training programs.
4. Is responsible for interfacing with the YMPO Training Officer and providing support with the following:
 - Assessing participant training programs to ensure compliance with regulatory requirements and DOE goals

- Providing training to participants on selected subject matters
- Providing support in the development of video productions for training
- Coordinating participant training, as requested

3.3 YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PARTICIPANTS

Each YMP participant is responsible for defining its own training requirements. The TPO for each respective organization has overall accountability for establishing the individual training requirements and a SAT within that organization. Designated participant training managers will interface with the YMPO Training Officer to coordinate applicable implementation of this plan. In some instances, when participants employ one or more subcontractors, responsibility for training of subcontractor personnel remains with the YMP participant TPO. Participants shall provide the Training Officer with documentation of implementation or alternatives, as applicable, of the following activities:

1. Developing training materials.
2. Scheduling training activities.
3. Ensuring acceptable qualification of instructors and training program development staff.
4. Conducting proper delivery of classroom and other methods of training.
5. Evaluating trainee mastery of training assignments.
6. Qualifying and/or certifying trainees successfully completing assigned training modules, as appropriate.
7. Managing and controlling training records in accordance with requirements of the Project Records Management Plan and DOE System 80 Requirements (see Section 6.5).
8. Evaluating the effectiveness of the training development process and attending to corrective actions where necessary.

4.0 OPERATING PRACTICES

4.1 TRAINING CENTER

As directed by the YMPO Training Officer, the YMPO Training Center and Site Office Training Center are operated by the Training Manager. The facilities are used for qualification, orientation, indoctrination, and training of personnel. A staff of instructors, training coordinators, and training records personnel report to the Training Manager to carry out the implementation of the TMP. Facilities include classrooms, films and audio-visual equipment, and access to computer terminals for conducting software application training. The YMPO Training Center also maintains training records generated by the YMPO and Site Office training locations.

4.2 YUCCA MOUNTAIN SITE TRAINING

Training at the Yucca Mountain Site Office is conducted by YMPO Training Center personnel in support of the Site Manager. Site training is designed to meet the unique requirements of YMP personnel whose work is performed on the site. The curriculum is centered around site safety, environmental, security, and radiological considerations, commonly called General Employee Training, and applies to personnel from all YMP organizations. Some Project-wide training is also provided by the Training Center staff at the request of the Site Manager.

4.3 PARTICIPANT TRAINING

Orientation, indoctrination, and training activities are performed by YMP participants at their respective locations, with coordination and guidance by the YMPO Training Officer. The training programs of the participant organizations are to conform to the guidelines of this TMP, following an SAT format. Training for specific work to be performed is the responsibility of the participant TPO. Training content and schedules are managed by the respective training managers or their designees.

4.4 TRAINING RESOURCE POOLING

A major consideration for the conduct of Project-wide training is to optimize the cost effectiveness and efficiency of training activities. All YMP organizations are encouraged to share training resources whenever it is practical to do so. An inventory of available classroom instruction, videotapes, films, and other training materials may be compiled by the YMPO Training Officer to provide an integrated catalog of training assets.

4.5 COORDINATION OF TRAINING MANAGEMENT PLAN ACTIVITIES

The training mission must be compatible with the YMP mission, thus coordination of activities is a key item for implementing the TMP. The YMPO Training Officer will conduct evaluations of scheduled principal training activities using milestones established for the YMP to schedule training deliverables. The training schedule may be used as one of the performance measurement criteria applied by the YMPO Training Officer in assessing the progress of TMP implementation. Other elements of training coordination may include periodic training representative meetings, site visitations, preparation of a newsletter highlighting training activities and accomplishments, and participation in focus groups and councils for Total Quality Management.

5.0 PERFORMANCE MEASUREMENT CRITERIA

5.1 TRAINING ASSESSMENT

The YMP Training Officer will conduct assessments of each training organization to determine the effectiveness of implementation of this plan. The programs which implement this plan will be assessed based on the applicability of each component in the planned processes to the scope of work performed by the participant. Assessment teams will be determined by the YMP Training Officer. Assessment teams will be determined by the YMP Training Officer. Prearranged assessment objectives will be determined between the Training Officer and the cognizant TPO and used as the basis for the Training Assessment Plan (see example plan in Attachment I).

5.2 TRAINING EFFECTIVENESS

The following are some of the general categories which may be used to determine TMP implementation effectiveness:

1. Use of a systematic method for identifying and selecting tasks for initial qualification, and continuing training for individuals to perform their job functions, one which provides flexibility to adapt to changing job conditions.
2. Established learning objectives keyed to job task analyses which focus on skills and knowledge needed to perform each function.
3. Clearly defined goals, objectives, responsibilities, interfaces, and authorities for the training organization.
4. Methods that are in place to conduct regular evaluation of trainee performance after training using appropriate measurement standards and objectives.
5. Techniques that are established to systematically gauge the quality of the training program and make adjustments, as appropriate, where feedback shows improvements may be made.

5.3 TRAINING COMPLIANCE

Compliance with the laws, regulations, and orders governing the YMP ensures that the training program is designed to satisfy concerns that YMP activities are performed with maximum regard for worker and public safety, while ensuring collection and retention of designated data. Key evaluation elements that make up training compliance criteria are the following:

1. Functional task analysis methods are adequate to develop comprehensive and appropriate learning objectives.
2. Identified learning objectives contain actions, conditions, and standards for job performance that relate directly to the regulatory (i.e., Occupational Safety and Health Administration, U.S. Environmental Protection Agency, Mine Safety and Health Administration, etc.) and QA requirements for the job.
3. Training addresses appropriate subject matter, is organized and sequenced in instructional settings appropriate to the functional tasks, and records are produced and maintained for each training activity.
4. A process is in place to provide remedial training if the need is identified.
5. Internal and external evaluations of training performance are systematically performed, and continuing monitoring of staff instructor qualifications is supported by management.

5.4 TRAINING REMEDIAL ACTIONS

Any remedial actions identified during the normal course of training administration, during internal or external evaluations, or assessments of training programs must be documented and corrected in a timely manner. Suggested corrective actions and objective evidence of corrective measures taken will be documented. Remedial actions may take several forms but generally are concerned with the following:

1. Maintenance of current training requirements as the conditions affecting job qualifications on the YMP change.
2. Procedures for adjusting learning objectives as job performance requirements change.
3. Re-evaluation of lesson plans, training materials, and instructional methods based on changing training needs.
4. Requalification training and additional or expanded disciplines to correct for substandard performance trends.
5. Training program enhancement based on instruction critiques and internal and external feedback of training procedures and practices.

6.0 TRAINING DOCUMENTATION

6.1 EMPLOYEE EDUCATION AND EXPERIENCE VERIFICATION RECORDS

Education and experience verification for each individual is the responsibility of each respective organization involved with the YMP. Documentation of this verification is maintained by the appropriate participant organization.

6.2 EMPLOYEE ORIENTATION, INDOCTRINATION, AND TRAINING RECORDS

Each training organization is responsible for generating and maintaining complete records for the training received by each individual. These records may contain sensitive information defined by DOE System 80 of the Privacy Act of 1974 and will be maintained and disclosed as described in Section 6.5 below. Typical training records may include self-study confirmations, classroom attendance rosters, evaluations and evaluation results, certifications, and specialized qualification records. The training organization also maintains records of lesson plans, training materials, procedures, plans, and policies governing the conduct of the Training Development Process. Records resulting from participant training activities are to be protected and processed in accordance with the requirements contained in the YMP Records Management Plan. These records will be submitted to the records system in accordance with DOE System 80, Administrative Procedure 1.18Q, Records Management: Las Vegas Record Source Responsibilities, or submitted in accordance with participant records procedures, as appropriate.

6.3 INSTRUCTOR QUALIFICATION RECORDS

Records for training staff personnel and subject matter experts who conduct formal classroom instruction are to be maintained by each training organization.

6.4 QUALITY ASSURANCE QUALIFICATION RECORDS

Qualification of QA Auditor and Quality Control (QC) Inspector certification is the responsibility of the QA organization. Records of QA Auditor qualification and QC Inspector certification may be maintained by a training organization in the individual employee's training file.

6.5 QUALITY ASSURANCE TRAINING AND QUALIFICATION RECORDS (U.S. DEPARTMENT OF ENERGY SYSTEM 80)

QA records that contain personnel training and qualification information including certification records, shall be collected and managed as a special system of records (DOE System 80 of the Privacy Act of 1974) by the YMPC and each YMP participant's records management system.

DOE System 80 records are generated in accordance with applicable YMPC and participant procedures that include documentation of (1) Indoctrination and Training, (2) Verification of Personnel Qualification/Certification, and Qualification/Certification of Audit Personnel.

DOE System 80 records shall be maintained for review during the performance of audits and surveillances by DOE, and observed by Nuclear Regulatory Commission, affected state and local governments, and other Federal Government agencies.

Access of DOE System 80 records shall be limited to authorized training organization staff, supervisors, records management personnel, and QA audit and surveillance personnel who verify compliance with QA program requirements.

Other requests for access to training files shall be directed by the originator to the Freedom of Information Officer or the Director, Office of Quality Assurance, OCRWM, as appropriate.

YMPC and participant procedures implementing DOE System 80 shall address the specific training and qualification records subject to System 80 requirements and additional instructions on identification, transmittal, maintenance and storage of these records, in addition to access control per System 80 requirements.

6.6 TRAINING ASSESSMENT AND REMEDIAL ACTION DOCUMENTATION

Applicable records of training program assessment findings, recommended corrective actions, and objective evidence of remedial actions taken are to be maintained by the affected training organization.

ATTACHMENT I

EXAMPLE OF A TRAINING ASSESSMENT PLAN

OBJECTIVE:

To assess the overall effectiveness of a Systematic Approach to Training and impact on the qualifications and proficiencies of individuals who perform quality-affecting activities.

AREAS OF ASSESSMENT

I. Personnel Qualification

A. Initial

1. Ensure all department managers establish a matrix of training requirements for their section and review it at least annually.

B. Proficiency Maintenance (Feedback loop)

1. Initial random interview with management to determine impact on performance after training.
2. Evaluate participant's critiques and determine impact on classroom presentation and instructor adequacy.
3. On random basis, evaluate instructor performance.

II. Documentation Requirements

1. Evaluate Lesson Plans to ensure behavioral objectives are stated and satisfactorily met.
2. Ensure Subject Matter Expert concurrence with content presentation.
3. Ensure correctness of documentation by a document review process.
4. Evaluate "Orientation" content to ensure latest information is provided.

III. Management Interface

1. Interface with management as necessary to establish policies conducive to achieving effective and timely training.

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APPENDIX B6

YMP

FIELD OPERATIONS INSTRUCTION (FOI)-3001

YUCCA MOUNTAIN FIELD TRAINING PROGRAM

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U.S. DEPARTMENT OF ENERGY
FIELD OPERATING INSTRUCTIONS
YUCCA MOUNTAIN SITE CHARACTERIZATION
PROJECT OFFICE

YMP-FOI-3001, REV. 2

3001 YUCCA MOUNTAIN FIELD TRAINING PROGRAM

1. POLICY

A field training program has been established to ensure that all Yucca Mountain Site Characterization Project (YMP) participants (i.e., contractor, subcontractor, observer, and U.S. Department of Energy (DOE) personnel) have been trained to conduct field activities on the YMP-dedicated lands of the Nevada Test Site.

2. OBJECTIVES

Establish a field training program for all YMP participants and provide directions and instructions relating to training of personnel performing field operations and activities at the YMP site.

Document all required field training activities and maintain a training records management system.

3. RESPONSIBILITIES AND AUTHORITIES

a. The YMP Site Manager

Responsible for ensuring that an effective field training program is established, maintained, and continually improved.

b. Training Department Manager

As directed by the YMP Training Officer, appoints and directs field training staff to support the Yucca Mountain Site Office and fulfills all field training needs and requirements as directed by the YMP Site Manager. Reviews and approves the field training program.

(Vertical line denotes change.)

3/1/93

**YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT - FIELD OPERATING
INSTRUCTIONS (YMP-FOI) YUCCA MOUNTAIN SITE FIELD TRAINING PROGRAM
YMP-FOI-3001, REV. 2**

c. Field Training Staff

- (1) Receive programmatic guidance and direction from the Training Department Manager for developing and implementing the field training program.
- (2) Develop and implement the field training program as requested by the YMP Site Manager.
- (3) Coordinate with YMP participants to ensure that all field training needs and requirements are fulfilled.
- (4) Ensure that General Employee Training (GET), General Employee Radiological Training (GERT), Standard First Aid, and underground access training are conducted and documented, and that records are managed and maintained in accordance with the Yucca Mountain Project Office (YMPO) training program.
- (5) Design, develop, and schedule field training, and distribute field training schedules to all YMP participants.
- (6) Issue unique visual identifiers for coded site badges to all YMP participants who complete initial and refresher GET.
- (7) Notify personnel of GET, GERT, Standard First Aid, and underground access refresher training requirements.
- (8) Maintain training aids and equipment.
- (9) Evaluate training courses and programs as part of a continuous improvement process to address changes in methodology, technology, and regulatory requirements.

d. Technical Project Officers

Responsible for ensuring that all cognizant personnel assigned to field duties complete the mandatory field training program before being

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3/1/93

**YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT - FIELD OPERATING
INSTRUCTIONS (YMP-FOI) YUCCA MOUNTAIN SITE FIELD TRAINING PROGRAM
YMP-FOI-3001, REV. 2**

scheduled for field activities.

4. PROCEDURES AND CONTROLS

- a. All YMP participants assigned to the field are required to maintain training on the following:
 - (1) General Employee Radiological Training (GERT 1.1).
 - (2) General Employee Training Course (GET 1.2, 1.3, 1.4, and the annual refresher, 1.5).
 - (3) Standard First Aid.
- b. GERT 1.1 and GET shall be required for those individuals who are physically assigned to the field or need unescorted access to perform field work. Individuals who have not completed these courses shall be escorted at all times by a qualified individual.
- c. Escorted visitors shall at least be given a safety briefing by their escort. Some site visitors may be required to attend all or a portion of GET before being authorized to visit field work sites.
- d. All YMP participants assigned to field activities must complete GERT 1.1 and GET. Similar training programs conducted by other organizations cannot be substituted for GET, but may be substituted for GERT 1.1 if the individual presents proper documentation.
- e. Personnel who complete initial GET must successfully complete GERT 1.1 and GET 1.5 to continue field activities.
 - (1) GERT 1.1 recertification, required every two years, can only be completed by passing a written examination after completing self-study; at least 80% of the questions on the test must be answered correctly to pass. Individuals who desire additional review may also re-take the GERT 1.1 class.
 - (a) Supervisors will be notified of employees who fail the

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3/1/93

**YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT - FIELD OPERATING
INSTRUCTIONS (YMP-FOI) YUCCA MOUNTAIN SITE FIELD TRAINING PROGRAM
YMP-FOI-3001, REV. 2**

examination within three working days; the individual must be scheduled to take the test again within ten working days. Those who do not re-take the test within ten working days or fail the test a second time will be required to re-take the GERT 1.1 class and test.

- (2) GET 1.5, required annually, can only be completed by passing a written examination after completing self-study; at least 70% of the questions on the test must be answered correctly to pass. Individuals who desire additional review may also take the GET 1.5 class.

- (a) Personnel who do not pass the GET 1.5 exam will not be considered qualified to work in the field unescorted until they do pass. Accommodations for re-training these people will be made on a case-by-case basis.
- f. Personnel who become more than six months delinquent on their GET refresher will be removed from active status, and will have to re-take the initial GET course before being restored.
- g. Personnel authorized by the Training Department Manager to proctor the GET 1.5 examination shall receive re-qualification credit.
- h. Individuals who require underground access for work purposes must complete underground worker training. The type of training required, either new miner, experienced miner, or visitor, will be determined by YMP Safety and Health in accordance with 30 CFR Part 48.2(b) and (c).

Documentation of experienced miner status will be completed on the Miner Experience Determination form FOI-3001/1 (Attachment 2).

Personnel must also complete an annual refresher course to maintain this qualification.

- i. Job-specific training is the responsibility of each YMP participant.

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3/1/93

**YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT - FIELD OPERATING
INSTRUCTIONS (YMP-FOD) YUCCA MOUNTAIN SITE FIELD TRAINING PROGRAM
YMP-FOI-3001, REV. 2**

- j. Original documentation generated by the field training program shall be maintained by the Training Department for turnover to the Las Vegas Local Records Center.
- k. The foregoing requirements shall also apply to any non-YMP personnel who require frequent YMP site access or who must work at the YMP site unescorted. These personnel must take all required courses. They shall then fill out a copy of the Trainee Information form FOI-3001/2 (Attachment 2) and return it to the YMP Training Center to ensure they are maintained on all necessary tracking systems.

5. Attachments

- 1. Miner Experience Determination form, FOI-3001/1
- 2. Trainee Information form, FOI-3001/2

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3/1/93

Yucca Mountain Site Characterization Project Miner Experience Determination

Name

Organization

The individual named above is determined to be an "experienced miner" by the criteria of 30 CFR Part 48.2(b) or other acceptable training or experience. This individual has met either of the following:

1. ☐ Received approved comprehensive underground miner training within the 12 months immediately preceding their Exploratory Studies Facility work assignment.

Check type of training received:

- ☐ Annual Refresher (MSHA form 5000-23)
- ☐ Newly Employed Experienced Miner (MSHA form 5000-23)
- ☐ Hazard Training (MSHA form 5000-23)
- ☐ New Employed Inexperienced Miner (MSHA form 5000-23)
- ☐ Other (specify): _____
- _____
- _____
- _____

2. ☐ Had at least 12 months of acceptable underground work experience in the 3 years immediately preceding their Exploratory Studies Facility work assignment. (Specify. Additional pages may be attached.)
- _____
- _____
- _____
- _____

Safety Officer

Signature below indicates the individual named above is determined to be an experienced miner.

Name

Signature

Date

**Yucca Mountain Site Characterization Project
Trainee Information**

Date

Name _____

Company _____

Office Phone _____

Site Phone _____

Individual & address to which training materials should be sent:

Name: _____

Phone: _____

Address: _____

APPENDIX B7

YMP
FIELD OPERATIONS INSTRUCTION
(FOI)-4705

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT
WORKSITE AND AREA ACCESS, CONTROLS,
AND FACILITY PERMITS

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**AUTHORITY TO PUBLISH AND DISTRIBUTE
YUCCA MOUNTAIN PROJECT FIELD OPERATING INSTRUCTIONS**

Y-AD-100
7/80

YMP-FOI Title:
YMP Work Site and Area Access, Controls and
Facility Permits

YMP-FOI No.: 4705 Rev. 1

Date of Submission:

04/14/93

Initiated By: (Responsible office, contact person and phone number)

Craig A. Matthews, Field Operations Support Department (5-5786)

From: Yucca Mountain Site Office

Signature

Date

Routing:

**Do Not
Concur**

Concur

**Comments
Attached**

1. Manager FOC

✓

John R. Throckmold

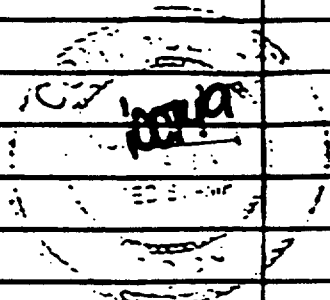
4/15/93

2. Operations Officer

✓

Craig A. Matthews

4/14/93



Remarks:

Forwarded for review, approval and or comments.

INFORMATION COPY

Signature of Approving Officer:

Winfred A. Wilson

Winfred A. Wilson, Site Manager

Date:

4-20-93

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U. S. DEPARTMENT OF ENERGY
FIELD OPERATING INSTRUCTIONS
YUCCA MOUNTAIN SITE CHARACTERIZATION
PROJECT OFFICE

4705 YMP WORK SITE AND AREA ACCESS, CONTROLS AND FACILITY PERMITS
REV. 1

1. POLICY

To ensure that adequate controls are established and maintained and proper permits are issued at selected Yucca Mountain Project field work sites and areas for the purpose of protecting various project interest and for meeting specific requirements that are identified by responsible project officials.

2. OBJECTIVE

To establish a system of controls adequate to ensure that protective measures are exercised to meet the requirements identified by project officials to establish and control access to selected work sites and areas. Such control may be required or justified for reasons of security for the protection of property, personnel health and safety, to maintain or assure site technical integrity, to control the usage of temporary structures, and to control and/or protect environmental interests. These controls could involve a combination of all or several of these controls at each site or area.

3. RESPONSIBILITIES AND AUTHORITIES

a. YMP Site Manager (SM)

- (1) Responsible for the implementation of the provisions of this Field Operation Instruction.
- (2) Responsible to ensure clear guidance is provided to project participants and contractors regarding their responsibility in executing the access control system and in particular when multiple participants/contractors will be involved at the same work site or area at the same time.
- (3) Responsible for the approval and issuance of permits for use of temporary structures.

04/13/93

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT - FIELD OPERATION
INSTRUCTIONS (YMP-FOI) YMP WORK SITE AND AREA ACCESS, CONTROLS
AND FACILITY PERMITS YMP-FOI-4705 R-1

b. YMPO Safety Staff

Responsible to the Site Manager for oversight and monitoring of work site access and controls to ensure Project Participants and contractors comply with applicable safety and health policies, regulations and procedures.

c. Field Operations Center (FOC) Manager

- (1) Responsible for scheduling and coordinating work site access for all visitors with worksite supervision and visitor control.
- (2) Maintains a point-of-contact listing for all work site/shop supervisors responsible for work site access and controls.
- (3) Maintains a log of all work sites and the controls put in place to control access to these work sites and any special restrictions that may have been placed into effect.
- (4) Reviews all requests for permits of temporary structures in regards to proposed use and placement of the facility.

d. T&MSS Field Safety and Health Office

Responsible for the coordination of field safety and health issue associated with all field activities and work site locations.

e. Project participants/Contractors

- (1) Assure that job site supervisors have been appointed and identified in the Job Package with telephone numbers as to where they can be located.
- (2) Responsible for ensuring that any special instructions/controls for site access have been established and incorporated into the Job Package.

04/13/93

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT - FIELD OPERATION
INSTRUCTIONS (YMP-FOI) YMP WORK SITE AND AREA ACCESS, CONTROLS
AND FACILITY PERMITS YMP-FOI-4705 R-1

- (3) All revised access site controls or new instructions after issuance of the Job Package must be reported to the FOC.
- (4) Provide the FOC with a detailed list of personnel authorized to approve access if such a list is required; if not, the FOC will authorize access.
- (5) Provide a completed Facility Use Permit request form to the FOC for review.

4. PROCEDURES AND CONTROLS

- a. Normal access to work areas whether in shop areas or field work sites (drill pads, trenches, construction, mining sites, etc.) are restricted to employees regularly assigned or those having official business. It is the responsibility of site supervision to regulate visitor control (persons not on official business) at all times.
- b. Site/Area Supervisors
 - (1) A work site supervisor is authorized to stop a site operation when in his or her judgment, the presence or action of a person or persons in the area constitutes an imminent hazard to site personnel or property. If operations are stopped, the FOC is to be notified immediate. FOC is to be notified immediate.
 - (2) Work site supervisors are responsible to see that all visitors are properly escorted, briefed on all site hazards and in possession of required PPE such as hard hats, safety glasses and safety shoes.
 - (3) To serve notice that access to all YMP work sites are regulated to all persons not on official business including shops where machinery or controls are in operation, the following sign(s) or one similar should be posted at each work site entrance.

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT - FIELD OPERATION
INSTRUCTIONS (YMP-FOI) YMP WORK SITE AND AREA ACCESS, CONTROLS
AND FACILITY PERMITS YMP-FOI-4705 R-1

[Size 12 inches x 24 inches, red letters on white background, Stock Number 1248-0507, Stating: [Restricted Area - Authorized Personnel Only - Apply at Office].

- (4) Some site may be controlled by some type of physical barrier such as fences with gates, barricades, etc. These barriers will have access instructions posted and will normally be controlled by the FOC.

c. Official Business or Escorts

All visitors must, upon arrival to the work site, shall make their presence and purpose known to the proper site supervisor before entry into the work area is made. Official business or irregular site workers working in with request or direction from site supervisors.

d. Site Inspections/Reports

Daily site access inspections and/or reports must be identified in the Job Package. These requirements may be verbal or written. If they are a written requirement, the Job Package must outline instructions as to what organizations/office is to receive these reports and there dispositions, if any, is required.

e. Facility Use Permits for Temporary Structures

All temporary structures are required to have permit approving it for usage. The approval will constitute the use of the temporary structure for a period not to exceed one year. Whenever the structure's use or location needs to change a new permit will have to be obtained.

04/13/93

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT - FIELD OPERATION
INSTRUCTIONS (YMP-FOI) YMP WORK SITE AND AREA ACCESS, CONTROLS
AND FACILITY PERMITS YMP-FOI-4705 R-1

5. DEFINITIONS

- a. Field work sites - any YMP work area site or building where special access and controls are necessary for the protection of property, technical integrity of experiments, and where safety and health of assigned personnel, visitors and the public may be a stake.

These work sites include, but are not limited to, the following: drilling sites, trenching/excavation sites, mining, construction, SMF area, sub-dock area, warehouses and machine shops.

- b. Participants/contractors - all organizations that are authorized by the YMP.
- c. Temporary Structure - all trailers, mobile homes, semi-trailer vans, portable buildings, and other relocatable structures or structure segments. These are normally complete modular units with walls, roofs, ceilings, and floors, and usually include installed utilities. This definition does not include plastic or fabric units such as tents or air supported structures, or prefabricated buildings that are designed to be permanently located (not portable) as a "Butler" or "Strand Steel" building.

6. REFERENCES

DOE/EV-0043 - Standard on Fire Protection for Portable Structures
AP-5.21Q - Field Work Activation
YMP-FOI-3001 - YMP Field Training Program
YMP-FOI-5401 - Field Safety and Health Program and Coordination
YMP-FOI-5601 - YMP Personnel and Visitors Control Procedures

04/13/93

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APPENDIX C

AUDIT SCHEDULES

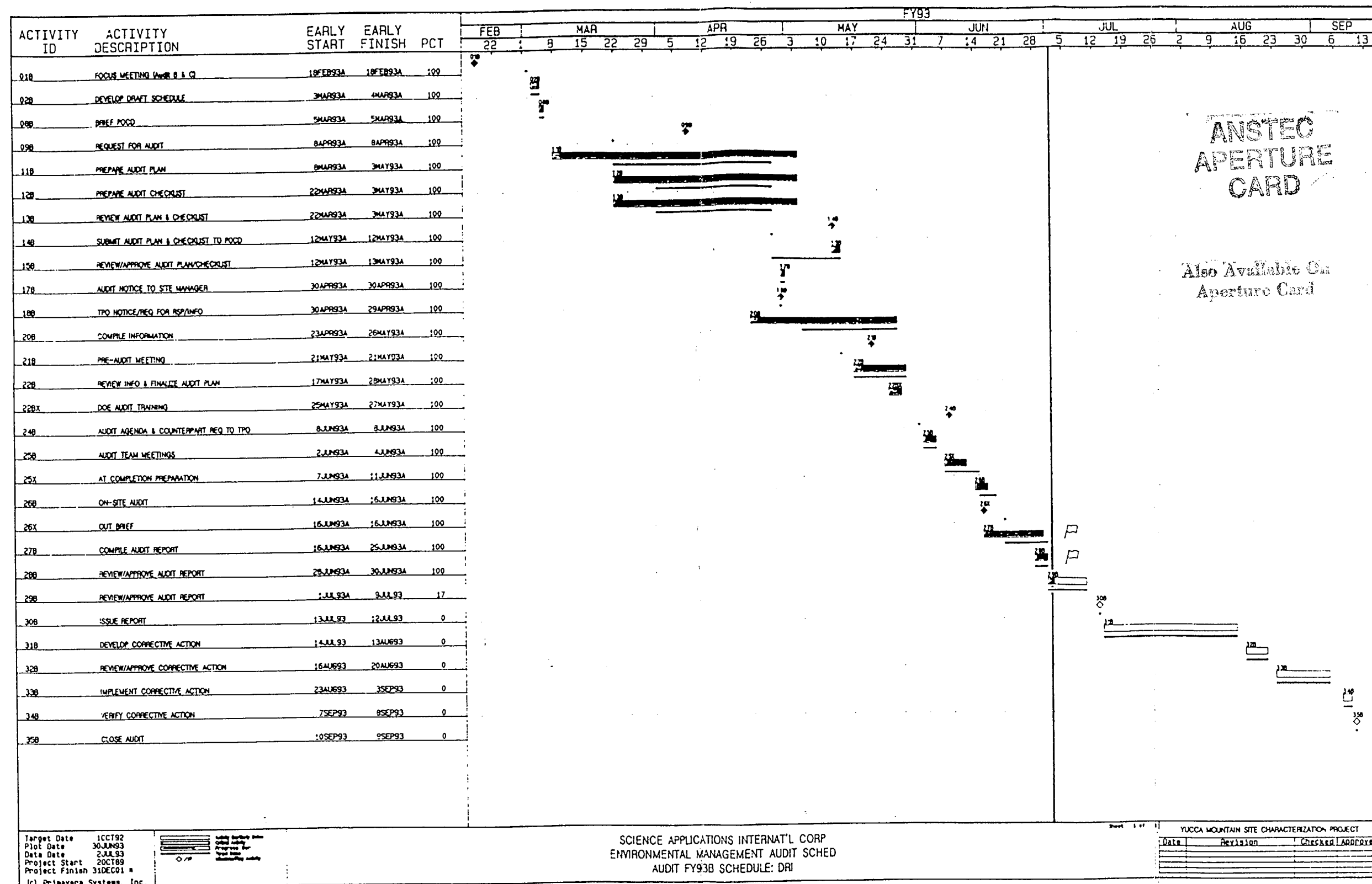
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APPENDIX C1
SCHEDULE FOR
ENVIRONMENTAL MANAGEMENT AUDIT FY93B

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APPENDIX C2

DAILY SCHEDULE - AUDIT PHASE

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ENVIRONMENTAL MANAGEMENT AUDIT (AUDIT FY93B)
OF
THE DESERT RESEARCH INSTITUTE (DRI)
YUCCA MOUNTAIN SITE CHARACTERIZATION ACTIVITIES

GENERAL AUDIT AGENDA
(See attachment for details)

Day 1--Monday 6/14/93 am

- Audit Team in-brief with DRI personnel.
- Interview DRI counterparts and other environmental/key personnel as required.
- Review records, environmental program documents, data bases as required.

Day 1--Monday 6/14/93 pm

- Document activities.
- Develop findings.
- Audit Team caucus meeting.
- Debrief Day 1 with DRI
- Adjust Day 2 agenda if necessary.

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AUDIT FY93B AGENDA
MONDAY, JUNE 14, 1993
 (DR=Document Review)

CS-2

8:00	Inbrief				
	Interviews				
8:30	<u>Kalia</u>	<u>Blakely</u>	<u>Thompson</u>	<u>Jensen</u>	<u>Springer</u>
9:00	DR	Rhode	Cullison	Chin	Buck
9:30	Buck	Chin	DR	Cullison	Rhode
10:00					
10:30	Cullison	Buck	Rhode	DR	Chin
11:00					
11:30	Lunch				
12:00					
12:30	<u>Kalia</u>	<u>Blakely</u>	<u>Thompson</u>	<u>Jensen</u>	<u>Springer</u>
1:00		Document Activities - Develop Findings			
1:30					
2:00					
2:30					
3:00	Audit Team Caucus				
3:30					
4:00	Day 1 Debrief				
4:30					

ENVIRONMENTAL MANAGEMENT AUDIT (AUDIT FY93B)
OF
THE DESERT RESEARCH INSTITUTE (DRI)
YUCCA MOUNTAIN SITE CHARACTERIZATION ACTIVITIES

GENERAL AUDIT AGENDA
(See attachment for details)

Day 2--Tuesday 6/15/93 am

- Audit Team travel to YMP project site.
- Observe data recovery site operations.
- Interview DRI counterparts and other environmental/key personnel as required.
- Review records, environmental program documents, data bases as required.

Day 2--Tuesday 6/15/93 pm

- Audit Team return to B of A Center.
- Document activities.
- Develop findings.
- Audit Team caucus meeting.
- Debrief Day 2 with DRI (Telephonic)
- Adjust Day 3 agenda (if necessary).

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AUDIT FY93B AGENDA
Tuesday, JUNE 15, 1993
 (DR=Document Review)

6:00	Audit Team Travel to Site				
8:00	<u>Kalia</u>	<u>Blakely</u>	<u>Thompson</u>	<u>Jensen*</u>	<u>Springer</u>
8:30	Travel to Alice Hill Data Recovery Site				
9:00	Discuss/Observe DRI Field Program				
9:30					
10:00	Travel to YMP Site Field Operations Center (FOC)				
10:30	<u>Interviews</u>				
11:00	<u>Chin</u>	<u>DR</u>	<u>DR</u>	<u>Buck</u>	<u>Varley</u>
11:30	<u>DR</u>	<u>Varley</u>	<u>Chin</u>	<u>Rhode</u>	<u>DR</u>
12:00	Audit Team Return to BofA Center				
2:00	<u>Kalia</u>	<u>Blakely</u>	<u>Thompson</u>	<u>Jensen*</u>	<u>Springer</u>
2:30	Document Activities - Develop Findings				
3:00					
3:30					
4:00	Audit Team Caucus				
4:30	Day 2 Debrief (Telephonic)				

(* Requires "Q"-cleared escort)

C2-4

ENVIRONMENTAL MANAGEMENT AUDIT (AUDIT FY93B)
OF
THE DESERT RESEARCH INSTITUTE (DRI)
YUCCA MOUNTAIN SITE CHARACTERIZATION ACTIVITIES

GENERAL AUDIT AGENDA
(See attachment for details)

Day 3--Wednesday 6/16/93 am

- Interview DRI counterparts and other environmental/key personnel as required.
- Review records, environmental program documents, data bases as required.

Day 3--Wednesday 6/16/93 pm

- Document activities.
- Develop findings.
- Audit Team caucus meeting.
- Debrief Day 3 with DRI.
- Adjust Day 4 agenda (if necessary).

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AUDIT FY93B AGENDA
Wednesday, JUNE 16, 1993
 (DR=Document Review)

C2-6

	Interviews				
8:00	<u>Kalia</u>	<u>Blakely</u>	<u>Thompson</u>	<u>Jensen</u>	<u>Springer</u>
8:30	DR	Cullison	Buck	DR	DR
9:00	Rhode	DR	DR	DR	Cullison
9:30					
10:00	DR				DR
10:30					
11:00					
11:30	Lunch				
12:00					
12:30	<u>Kalia</u>	<u>Blakely</u>	<u>Thompson</u>	<u>Jensen</u>	<u>Springer</u>
1:00		Document Activities	- Develop Findings		
1:30					
2:00					
2:30					
3:00	Audit Team Caucus				
3:30					
4:00	Day 3 Debrief				
4:30					

ENVIRONMENTAL MANAGEMENT AUDIT (AUDIT FY93B)
OF
THE DESERT RESEARCH INSTITUTE (DRI)
YUCCA MOUNTAIN SITE CHARACTERIZATION ACTIVITIES

GENERAL AUDIT AGENDA
(See attachment for details)

Day 4--Thursday 6/17/93 am

- Conclude audit activities as required.
- Audit Team Caucus

Day 4--Thursday 6/17/93 pm

- Document activities.
- Develop findings.
- Begin writing audit report.
- Debrief Day 4 with DRI (if required).

AUDIT FY93B AGENDA
Thursday, JUNE 17, 1993

8:00 Kalia

8:30 Blakely Thompson Jensen Springer
Conclude audit activities as required

9:00

9:30

10:00

10:30 Audit Team caucus

11:00

11:30 Lunch

12:00

12:30 Kalia Blakely Thompson Jensen Springer
Document Activities; Develop Findings; Begin Report Writing

1:00

1:30

2:00

2:30

3:00

3:30

4:00 Day 4 Debrief (if required)

4:30

ENVIRONMENTAL MANAGEMENT AUDIT (AUDIT FY93B)
OF
THE DESERT RESEARCH INSTITUTE (DRI)
YUCCA MOUNTAIN SITE CHARACTERIZATION ACTIVITIES

GENERAL AUDIT AGENDA
(See attachment for details)

Day 5--Friday 6/18/93 am

- Audit Team caucus.
- Finalize findings.
- Write audit report.

Day 5--Friday 6/18/93 pm

- Finalize findings.
- Write audit report.

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AUDIT FY93B AGENDA
Friday, JUNE 18, 1993

7:30	Audit Team Caucus				
8:00	<u>Kalia</u>	<u>Blakely</u>	<u>Thompson</u>	<u>Jensen</u>	<u>Springer</u>
8:30	Finalize Findings; Write Audit Report				
9:00					
9:30					
10:00					
10:30					
11:00					
11:30	Lunch				
12:00					
12:30	<u>Kalia</u>	<u>Blakely</u>	<u>Thompson</u>	<u>Jensen</u>	<u>Springer</u>
1:00	Finalize Findings; Write Audit Report				
1:30					
2:00					
2:30					
3:00					
3:30					
4:00					
4:30					

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APPENDIX D

AUDIT TEAM
BIOGRAPHICAL SKETCHES

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AUDIT TEAM BIOGRAPHICAL SKETCHES

The Audit Team (AT) for the Desert Research Institute Environmental Management Audit FY93B was comprised of personnel from The Technical and Management Support Services Environmental Compliance and Permitting Department. The names of the AT members and their primary areas of responsibility are listed below. This listing includes the years of experience and a brief biographical sketch of each team member.

NAME: Sid Dodd
B.S., Economics
M.S., Management

AUDIT RESPONSIBILITY: Audit Team Leader

YEARS OF EXPERIENCE: 33

BIOGRAPHICAL SKETCH: Mr. Dodd has broad, hands-on experience in the management of multi-discipline organizations and projects. At SAIC he has both management and technical analyses experience in preparing environmental report documents. Colonel Dodd's USAF command experience included responsibility for environmental compliance and protection. He is conversant with the body of environmental regulations as they apply to federal facilities.

NAME: Greg Fasano
B.S., Geology
M.B.A., Business Administration

AUDIT RESPONSIBILITY: Technical Coordinator

YEARS OF EXPERIENCE: 11

BIOGRAPHICAL SKETCH: Mr. Fasano is a specialist in the assessment of hazards and impacts to proposed projects and the natural environment. He has a working knowledge of state and federal environmental compliance processes and has applied this knowledge in support of environmental compliance planning efforts. He has prepared and managed portions of various types of environmental documents and has experience in technical interface coordinations between geological and environmental sciences with resultant applications in the areas of site characterization/suitability.

NAME: Bob Blakely
B.S., Aviation Management

AUDIT RESPONSIBILITY: Environmental Management Performance Objectives and Criteria

YEARS OF EXPERIENCE: 32

BIOGRAPHICAL SKETCH: Mr. Blakely has extensive experience in facilities planning, environmental studies, and noise and land use compatibility analyses. He has served as Principal Investigator or Task Manager for numerous environmental impact studies prepared under the guidelines of the National Environmental Policy Act. He is currently an environmental permitting and compliance specialist responsible for initiating and processing applications for the permits to construct and the operating permits required for the YMP Exploratory Studies Facility and surface-based testing activities. He also serves on environmental audit teams to assess environmental management programs relative to environmental procedures, regulations and standards.

NAME: Asha Kalia
B.A., Anthropology
M.A., Ancient Indian Art and History
Ph.D., Ancient Indian Art and History

AUDIT RESPONSIBILITY: Resolutions of Environment, Safety and Health Concerns

YEARS OF EXPERIENCE: 17

BIOGRAPHICAL SKETCH: Dr. Kalia, through association with several firms and universities, is experienced across a broad spectrum of environmental activities and issues. She has been involved with the environmental aspects of high level radioactive waste management, development and evaluation of mitigation for mining and drilling operations, and has reviewed and finalized several archaeological mitigation reports for agencies such as the U.S. Army Corps of Engineers, National Park Service, and Bureau of Land Management. She has participated in field archeological surveys and excavations, is a certified lead auditor, and has participated in quality assurance audits and surveillances. Dr. Kalia has published a book on Ancient Indian History.

NAME:

Bob Thompson
B.S., Mathematics
M.A., Human Resources Management

AUDIT RESPONSIBILITY:

Occurrence Reporting and Processing of Operations Information

YEARS OF EXPERIENCE:

24

BIOGRAPHICAL SKETCH:

Mr. Thompson has prepared technical analyses for over 30 Environmental Impact Statements, Environmental Assessments, and other special studies for the Departments of Defense (DOD) and Energy (DOE) and other federal agencies. He has conducted over 200 site assessments (environmental audits) under the U.S. Army Environmental Compliance Assessment System (ECAS) program. ECAS activities included records review, interviews, site inspections, and development of recommendations to bring facilities into compliance with statutory requirements. Assessment protocol areas have included the CAA, CWA, SDWA, RCRA, CERCLA/SARA, TSCA, FIFRA, NEPA, cultural and historical resources, and others.

NAME:

Kathryn Jensen
B.A., Chemistry

AUDIT RESPONSIBILITY:

Environmental Safety and Health Protection Program of U.S. Department of Energy Operations

YEARS OF EXPERIENCE:

2

BIOGRAPHICAL SKETCH:

Ms. Jensen is an Environmental Scientist for Technical and Management Support Services for the YMP. She assists in the hazardous materials and waste management programs and conducts reviews of Requests for Authorization to use regulated materials. She participates in the YMP Project and Operations Control Division-directed environmental audit program conducted by the T&MSS Environmental Compliance and Permitting Department. She identifies environmental data requirements for the YMP through review, analysis, and interpretation of federal, state, and local environmental regulations.

NAME:

Debra Springer
Coursework, Sheridan Junior college

AUDIT RESPONSIBILITY:

Environmental Training Program

YEARS OF EXPERIENCE:

15

BIOGRAPHICAL SKETCH:

Ms. Springer is responsible for maintaining and researching for completeness all preactivity survey files for both the Yucca Mountain Site Characterization Project Office and for the Technical and Management Support Services (T&MSS) Environmental Compliance and Permitting Department (ECPD). She also monitors trainings records and requirements for the ECPD. Prior to her assignment to the ECPD, she was on the T&MSS Training Department staff where her duties involved reviews of personnel training files for completeness and for compliance with project training requirements. In addition to serving as a member of environmental compliance audit teams, she regularly participates in environmental surveillances of YMP field work.

APPENDIX E

LIST OF AUDIT TEAM
CONTACTS AND INTERVIEWS

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LIST OF AUDIT CONTACTS/INTERVIEWS

AUDITOR	CONTACT/ INTERVIEWEE	POSITION	ORGANIZATION	NUMBER OF CONTACTS/ INTERVIEWS
<u>S. Dodd</u>	Dr. David Rhode	Project Manager	DRI	5
	Dr. Paul Buck	Project Director	DRI	4
	Dr. Dennis Chin	ES&H Officer	DRI	4
	Russ Cullison	Security Officer	DRI	1
<u>G. Fasano</u>	Dr. David Rhode	Project Manager	DRI	4
	Dr. Paul Buck	Project Director	DRI	2
	Russ Cullison	Security Officer	DRI	1
	Dr. Dennis Chin	ES&H Officer	DRI	1
<u>B. Blakely</u>	Dr. David Rhode	Project Manager	DRI	1
	Dr. Dennis Chin	ES&H Officer	DRI	1
	Dr. Paul Buck	Project Director	DRI	1
	Kerry Varley	Field Supervisor	DRI	1
	Russ Cullison	Security Officer	DRI	1
<u>A. Kalia</u>	Dr. Paul Buck	Project Director	DRI	1
	Russ Cullison	Security Officer	DRI	1
	Dr. Dennis Chin	ES&H Officer	DRI	1
	Dr. David Rhode	Project Manager	DRI	1

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LIST OF AUDIT CONTACTS/INTERVIEWS

AUDITOR	CONTACT/ INTERVIEWEE	POSITION	ORGANIZATION	NUMBER OF CONTACTS/ INTERVIEWS
<u>B. Thompson</u>	Russ Cullison	Security Officer	DRI	1
	Dr. David Rhode	Project Manager	DRI	1
	G. Haynes	Field Supervisor	DRI	1
	Dr. Dennis Chin	ES&H Officer	DRI	1
	Dr. Paul Buck	Project Director	DRI	1
<u>K. Jensen</u>	Dr. Dennis Chin	ES&H Officer	DRI	1
	Russ Cullison	Security Officer	DRI	2
	Dr. Paul Buck	Project Director	DRI	2
	Dr. David Rhode	Project Manager	DRI	1
<u>D. Springer</u>	Theresa Robotham	T&MSS GET Coordinator	T&MSS/SAIC	2
	Dr. David Rhode	Project Manager	DRI	2
	Sandy Lloyd	T&MSS Field Training Assistant	T&MSS/SAIC	2
	Gary Mansur	Division Manager, T&MSS Field Training & Administration	T&MSS/SAIC	1
	Dr. Paul Buck	Project Director	DRI	1
	Dr. Dennis Chin	ES&H Officer	DRI	1
	Kerry Varley	Field Supervisor	DRI	1
	Russ Cullison	Security Officer	DRI	1

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APPENDIX F

**LIST OF DOCUMENTS REVIEWED BY THE
AUDIT TEAM**

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LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM

Auditor	Document Title/Description	Author/ Organization/Recipient	Document Date
<u>Sid Dodd</u>	Environmental Auditing Vol I	DOE	01/93
	Environmental Auditing Vol II	DOE	01/93
	Performance Objectives and Criteria for DOE Environmental Audits, DOE/EH-0229	DOE	---
	AP-5.46, Environmental Compliance Auditing and Surveillance of Yucca Mountain Site Characterization Project Activities	YMP	08/14/92
	AP-2.9, Occurrence Reporting and Processing of Operations Information	YMP	12/26/90
	AP-6.18, Resolutions of Environment, Safety and Health Concerns	YMP	08/91
	AP-5.43, Environmental Safety and Health Protection Program for U.S. Department of Energy Operations	YMP	09/92
	DOE 5480.19, Conduct of Operations Requirements for DOE Facilities	DOE	07/90
	DOE 54(X).1, General Environmental Protection Program	DOE	11/88
	DOE 55(X).2A, Emergency Notification, Reporting, and Response Levels	DOE	04/13/80
	DOE/NV 55(X).3, Emergency Preparedness Program and Notification Systems	DOE	03/89
	Training Management Plan	YMP	07/92
	YMP Environmental Management Plan	YMP	03/93

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LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM

Auditor	Document Title/Description	Author/ Organization/Recipient	Document Date
<u>Sid Dodd</u> (continued)	Federal Environmental Inspection Handbook	DOE	10/91
	T&MSS Environmental Safety and Health Plan	T&MSS	08/92
	Environmental Audit Manual, Vol I (DOE/EH-0125)	DOE	01/90
	Environmental Audit Manual, Vol II (DOE/EH-0125)	DOE	01/90
	Environmental Audit Manual, Vol III (DOE/EH-0125)	DOE	01/90
	DOE Environmental Audit Program Guidance (DOE/EH-0232)	DOE	01/92
	YMP-FOI-3001, Yucca Mountain Field Training Program	YMP	07/91
	YMP Regulatory Compliance Plan	DOE	09/90
	DRI YMP Archaeological Studies Program Organizational Chart	DRI	04/93
	DRI YMP Archaeological Studies Program Areas of Disturbance Due to Data Recovery Projects 1991-93	DRI	---
	DRI Archaeology Staff Roster for DOE/YMP	DRI	---
	Organization Chart, DOE/NV Environmental Research Programs, Contract #DE-AC08-90NV10845, DRI	DRI	04/93
	Occurrence Reporting and Processing System (ORPS) for Facility Managers	DODD	---
	WI-ARCH-01, Archaeological Survey	T&MSS	03/30/92
	WI-ARCH-02, Recording Archaeological Sites	T&MSS	03/30/92
	WI-ARCH-03, Surface Artifact Collection	T&MSS	03/30/92

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LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM

Auditor	Document Title/Description	Author/ Organization/Recipient	Document Date
<u>Sid Dodd</u> (continued)	WI-ARCH-04, Excavation	T&MSS	03/30/92
	WI-ARCH-05, Archaeological Monitoring	T&MSS	03/12/93
	WI-ARCH-06, Archaeological Records Management	T&MSS	03/12/93
	WI-ARCH-07, Laboratory Analysis	T&MSS	03/12/93
	WI-ARCH-08, Artifact Collections Management	T&MSS	03/12/93
	DOE/DRI Technical Directive 93-002 (Extract #1, P&S Account Planning Sheet)	DOE	03/18/93
	DOE/DRI Technical Directive 93-002 (Extract #2, ATCH. 5 Technical Requirements)	DOE	03/18/93
	DOE/DRI Contract No. DE-AC08-90NV10845, Attachment A, Statement of Work	DOE	---
	DOE/DRI Contract No. DE-AC08-90NV10845, Section B, Supplies or Services and Prices/Costs	DOE	---
	DOE/DRI Contract No. DE-AC08-90NV10845, Section H, Special Contract Requirements (Extracts)	DOE	---
	DOE/DRI Contract No. DE-AC08-90NV10845, Section I, Contract Clauses (Extract)	DOE	---
	DRI Brochure	DRI	02/93
	DRI Newsletter	DRI	1st Qtr 92
	DRI Newsletter	DRI	2nd Qtr 92
	DRI Newsletter	DRI	4th Qtr 92

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LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM

Auditor	Document Title/Description	Author/ Organization/Recipient	Document Date
<u>Sid Dodd</u> (continued)	DRI Newsletter	DRI	1st Qtr 93
	DRI Quaternary Sciences Center Brochure	DRI	---
<u>Greg Fasano</u>	DRI Contract with DOE/NV and Technical Directive: DRI-93-002	DRI/DOE Nevada Operations	03/18/93
	DRI Work Instructions: WI-ARCH-01 through-08	DRI/DOE-YMP/SAIC-T&MSS	03-30-92
<u>Bob Blakely</u>	Performance Objectives and Criteria for Conducting DOE Environmental Audits	DOE	---
	Environmental Auditing Supplemental Information	DOE-HQ, Office of Environmental Audit	04/93
	Environmental Auditing Student Text	DOE-HQ, Office of Environmental Audit	05/93
	DOE Environmental Audit Program Guidance	DOE, Office of Environmental	01/92
	Environmental Management Audit Log Book, Audit 63B	T&MSS Environmental Compliance and Permitting Department	---
	General Environmental Protection Program	DOE	11/09/88
	DRI Contract Stipulations - Environmental	YMPO	Various
	Environmental Compliance Auditing and Surveillance of Yucca Mountain Site Characterization Project Activities	YMPO	08/14/92
	Environmental Health and Safety Statement	University & Community College System of Nevada	---
	Memorandum - Occurrence Reporting Plan & Processing Procedures	Russ Cullison/DRI/Distribution	06/01/93

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LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM

Auditor	Document Title/Description	Author/ Organization/Recipient	Document Date
<u>Bob Blakely</u> (continued)	DRI Safety and Health Plan for the Yucca Mountain Project	DRI	---
	Occurrence Reporting Plan and Processing Procedures	DRI, University and Community College System of Nevada	02/23/93
	Organization Chart	DRI	---
	Areas of Disturbance Due to Data Recovery Projects, FY 1991-1993	DRI	---
	Archaeological Survey	DRI/T&MSS	03/30/92
	Recording Archaeological Sites	DRI/T&MSS	03/30/92
	Surface Artifact Collection	DRI/T&MSS	03/30/92
	Excavation	DRI/T&MSS	03/30/92
	Archaeological Monitoring	DRI/T&MSS	03/12/93
	Archaeological Records Management	DRI/T&MSS	03/12/93
	Laboratory Analysis	DRI/T&MSS	03/12/93
	Artifact Collections Management	DRI/T&MSS	03/12/93
<u>Asha Kalia</u>	Environmental Auditing Vol I	DOE	04/93
	Environmental Auditing Vol. II	DOE	05/93
	Performance Objectives & Criteria for Conducting DOE Env. Audits	DOE	---
	DOE Environmental Audit Program Guidance (DOE/EH-0232)	DOE	01/92

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LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM

Auditor	Document Title/Description	Organization/Recipient	Document Date
<u>Asha Kalia</u> (continued)	Environmental, Safety and Health Plan, SAIC	YMP, DOI, SAIC, T&MS	06/92
	YMP Environmental Management Plan	YMP	03/93
	AP-2.9, Occurrence Reporting and Processing of Operation	YMP	12/26/90
	AP-6.18, Resolutions of Environmental, Safety and Health concerns	YMP	08/06/91
	DOE 5482.1A, Occupational Safety and Health Program for DOE Contract Employees at Government Contractor operated facilities	DOE, Washington DC	06/22/83
<u>Bob Thompson</u>	Occurrence Reporting Plan and Processing Procedures	DRI	02/93
	Organizational Chart, DOE/NV Environment Programs	DRI	05/93
	DOE YMP Archaeological Staff Listing	DRI	05/93
	Organizational Chart, YMP Archaeological Support Program	DRI	05/93
	DRI Memo - Occurrence Reporting Plan and Processing Procedure	DRI	06/01/93
	Letter - ORPS/Access for Desert Institute	REECo to DRI	02/23/93
	Letter - List of DOE NVO Facility ORPS	DOE	06/02/93
	Request to Register User - ID at IN	EG&G	02/04/93
	Security Program - Advisory 6/93	DRI	03/12/93

LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM

Auditor	Document Title/Description	Author/ Organization/Recipient	Document Date
<u>Bob Thompson</u> (continued)	Memo - Annual Unclassified Security and Safety Briefing	DRI	10/05/92
	Memo - Required Security Briefing for 1991	DRI	03/20/91
	Agenda for DRI Security Briefing	DRI	1992
	ORPS for Facility Managers	Unidentified	Undated
	DRI Safety and Health Plan for the YMP	DRI	04/92
	AP-2.9 Occurrence Reporting	YMP Office	07/12/91
	DOE Order 5000.3 Unusual Occurrence Reporting System	DOE	11/07/84
<u>Kathy Jensen</u>	Audit Plan for the Environmental Management Audit of DRI at YMP	SAIC	06/93
	Environmental Regulatory Compliance Audit Program Section 4.4 Extract	---	---
	AP-5.46, Environmental Compliance Auditing and Surveillance of YMP Activities	YMPO	08/14/92
	Environmental Management Audit Checklist for Administrative Procedure 5.43 for Dennis Chin	SAIC	06/10/93
	Environmental Management Audit Checklist for Administrative Procedure 5.43 for Russ Cullison	SAIC	06/10/93
	Environmental Management Audit Checklist for Administrative Procedure 5.43 for Paul Buck	SAIC	06/10/93
	Environmental Management Audit Checklist for Administrative Procedure 5.43 for David Rhode	SAIC	06/10/93

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LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM

Auditor	Document Title/Description	Author/ Organization/Recipient	Document Date
<u>Kathy Jensen</u> (continued)	AP-5.43 Environmental Safety and Health Protection Program for U.S. Department of Energy Operations	YMPO	09/22/92
	AP-5.7 Safety and Health Compliance Inspection	YMPO	03/13/91
	AP-5.38, Environmental Safety and Health Appraisal	YMPO	11/16/92
	YMP Safety and Health Plan	YMPO	June 1992
	YMP Environmental Management Plan	YMPO	March 1993
	YMP Environmental Field Activity Plan for Archaeological Resources	DRI	08/92
	Annual Report for the Programmatic Agreement on Historic Preservation	DRI	12/92
	Programmatic Agreement between the U.S. DOE and the Advisory County on Historic Preservation	DRI	12/88
	DRI Occurrence Reporting Plan and Processing Procedures	DRI	1993
	Occurrence Reporting Plan and Processing Procedures Memo: From Russ Cullison to Distribution	DRI/Russ Cullison	
	Letter from Winfred A. Wilson to Dennis L. Chin: Safety and Health Plan	YMP/W. Wilson	04/22/92
	DOE/DRI Technical Directive DRI-93-002	YMPO	12/18/92
	Attachment A: Statement of Work	YMPO	---
	Pamphlet: Tortoise Conservation	DOE/NVO	---
	Pamphlet: Radiation - A Fact of Life	American Nuclear Society	03/89

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LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM

Auditor	Document Title/Description	Author/ Organization/Recipient	Document Date
<u>Kathy Jensen</u> (continued)	Memorandum: From Russ Cullison to Roger Jacobsen Radiation Safety Training	Russ Cullison	11/03/92
	Security Program Advisories	Russ Cullison	01/11/93, 02/08/93, 03/12/92, 03/29/93
	DRI Field Trip Evaluation Sheet	Paul Buck/DRI	05/20/93
	DRI Safety and Health Plan for the YMP	DRI	---
	OCRWM ES&H Self-Assessment Questionnaire	OCRWM - completed by DRI	10/19/92
	DRI Quaternary Sciences Center General Information	DRI	03/93
<u>Debby Springer</u>	Environmental Requirements Training Program (GET 1.3)	T&MSS/YMP Training Department	09/91
	General Employee Training (GET 1.4) Safety and Health Indoctrination Handbook	T&MSS/YMP Training Department	N/A
	YMP-FOI-3001, Rev. 2, Yucca Mountain Field Training Program	YMP	03/17/93
	YMP-FOI-4705, Rev. 1, YMP Work Site and Area Access, Controls and Facility Permits	YMP	04/20/93
	General Employee Training 1.5 Update	Computer Generated List from T&MSS/YMP Training Department	06/01/93
	General Employee Radiological Training Update	Computer Generated List from T&MSS/YMP Training Department	06/02/93

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LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM

Auditor	Document Title/Description	Author/ Organization/Recipient	Document Date
<u>Debby Springer</u> (continued)	First Aid Training Completion Status Report (LTR #: RAM:S11:L93-066)	Regina A. McCarthy to Distribution	05/07/93
	First Aid Information (E-Mail)	(E-Mail) Sandy Lloyd/T&MSS Training Department	06/10/93
	Standard First Aid Training (E-Mail)	(E-Mail) Springer to G. Mansur/T&MSS Training Department	06/10/93
	Read Receipt for ETR-009 (E-Mail)	(E-Mail) G. Mansur/T&MSS Training Department	06/10/93
	First Aid List (E-Mail)	E-Mail) Sandy Lloyd/T&MSS Training Department	06/10/93
	YMP 191-27, Rev. 0. Training Management Plan (YMP)	YMP	07/92
	DRI YMP Archaeological Studies Program	DRI	N/A
	DRI Organization Chart	DRI	04/93
	DRI YMP Archaeological Studies Program	DRI	05/93
	DOE YMP Archaeological Staff	DRI	N/A
	Record of Safety & Security Training; Ltr: From Cullison to REEC	DRI	04/05/93
	Education and Training Reports; Ltr from Cullison to M. Serra (REECo)	DRI	06/10/93
	Security Program Advisory: 6-93	DRI	06/93
	Security Program Advisory: 5-93	DRI	05/93

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LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM

Auditor	Document Title/Description	Author/ Organization/Recipient	Document Date
<u>Debby Springer</u> (continued)	Security Program Advisory: 3-93	DRI	03/93
	Security Program Advisory: 2-93	DRI	02/93
	DOE Annual Unclassified Security and Safety Briefing	B. Finley to Dist.	11/03/92
	DRI Security Briefing 1992	DRI	1992
	Required Security Briefing for 1991	B. Salmon to Dist.	03/20/91
	Annual Unclassified Security & Safety briefing	R. Cullison to all DRI Employees	10/05/92
	Radiation Safety Training	R. Cullison to R. Jacobson	11/03/92
	Paul E. Buck, Environmental Management Audit Questionnaire	Environmental Training Auditor	N/A
	Dave E. Rhode, Environmental Management Audit Questionnaire	Environmental Training Auditor	N/A
	Dennis L. Chin, Environmental Management Audit Questionnaire	Environmental Training Auditor	N/A
	Kerry J. Varley, Environmental Management Audit Questionnaire	Environmental Training Auditor	N/A
	Russ C. Cullison, Environmental Management Audit Questionnaire	Environmental Training Auditor	N/A
	Audit Plan	Lead Auditor	06/93
	ERCP Section 4.4 Extract	N/A	N/A
	AP-5.46, Rev. 0, Env. Comp. Auditing and Surveillance of YMSCP Activities	Project Office	08/14/92

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LIST OF DOCUMENTS REVIEWED BY AUDIT TEAM

Auditor	Document Title/Description	Author/ Organization/Recipient	Document Date
<u>Debby Springer</u> (continued)	Environmental Management Audit Checklist	Environmental Training Auditor	N/A

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APPENDIX G

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UNIVERSITY AND COMMUNITY COLLEGE SYSTEM OF NEVADA
(UCCSN) ENVIRONMENTAL SAFETY AND HEALTH STATEMENT
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UCCSN

ENVIRONMENTAL HEALTH AND SAFETY STATEMENT

The University and Community College System of Nevada puts forth the following Environmental Health and Safety (EH&S) Statement for all institutions in the system in accordance with federal, state and local laws and regulations.

The UCCSN Board of Regents declares that the development, implementation and compliance monitoring of EH&S programs is integral to the UCCSN mission. The programs will be structured in such a way that they will become an essential part of campus life. It is the intention of the UCCSN Board of Regents that all UCCSN institutions be good neighbors in their communities with regard to EH&S issues.

EH&S programs should be administered at the institutional level. The UCCSN Board of Regents delegates the authority for the development, implementation and compliance monitoring of EH&S programs to the President of each institution. Each institution shall develop EH&S programs that best address the EH&S problems specific to that institution. Each institution shall develop an administrative structure to implement EH&S programs in a manner that educates all employees and students to provide knowledge and understanding of the programs. These programs shall include but are not limited to:

Biological Safety	Chemical Safety
Diving Safety	Disaster Preparedness
Fire Protection	Industrial Hygiene
Radiation Protection	Sanitation
Occupational Safety and Accident Prevention	
Environmental Protection and Hazardous Materials Management	
Relations with Governmental Agencies.	

Each institutional administrative structure shall establish oversight, advisory and compliance programs for monitoring institutional operations and activities.

The UCCSN Board of Regents recognizes the right of institutions to enter into cooperative agreements with each other in order to address all EH&S concerns.

The UCCSN Board of Regents declares that this statement shall appear as a preface to all EH&S program manuals and in all system publications including, but not limited to:

UCCSN "Code", Governing Documents, and Policy Manuals	
Institutional Catalogs	Faculty and Student Handbooks
Employee Handbooks.	

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AUDIT REPORT FY93B ACRONYMS

AP	Administrative Procedure
APM	Assistant Project Manager
AT	Audit Team
ATL	Audit Team Leader
BLM	Bureau of Land Management
BMPF	Best Management Practice Finding
CF	Compliance Finding
DOE	U.S. Department of Energy
DOE/NV	U.S. Department of Energy/Nevada Operations Office
DRI	Desert Research Institute
ECPD	Environmental Compliance and Permitting Department
EMP	Environmental Management Performance Objectives and Criteria
EPP	Environmental, Safety and Health Protection Program for U.S. Department of Energy Operations
ES&H	Environmental, Safety and Health
ETR	Environmental Training Program
FOC	Field Operations Center
FOI	Field Operations Instruction
GET	General Employee Training
GERT	General Employee Radiological Training
N/A	Not Applicable
NORSOC	Nevada Occurrence Reporting System Operations Center
NPF	Noteworthy Practice Finding
NTS	Nevada Test Site
OCRUM	Office of Civilian Radioactive Waste Management
OR	Occurrence Reporting
ORPS	Occurrence Reporting and Processing System
POC	Performance Objectives and Criteria
POCD	Project and Operations Control Division
PM	Project Manager
RAP	Reporting and Processing of Operations Information
REC	Resolutions of Environment, Safety and Health Concerns
T&MSS	Technical and Management Support Services
UCCSN	University and Community College System of Nevada
USAF	United States Air Force
USFWS	United States Fish and Wildlife Service
YMP	Yucca Mountain Site Characterization Project
YMPO	Yucca Mountain Site Characterization Project Office